

DEPARTMENT OF AGRICULTURE

2018 ANNUAL REPORT





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ABOUT THE COVER

This year's cover features Francisca S. Rimalos – one of the winners of the 2018 DA Search for Outstanding Rural Women. A graduate of BS Agriculture, and former educator and OFW from Gonzaga, Cagayan, Francisca finally pursued her passion for farming in 2010 and started cultivating the three-hectare farm that she acquired back in 1985 by planting yellow corn, glutinous corn, rice, vegetables, fruits and forest trees.

In 2011, she started Fredelina's Food Products – her family-owned business which is now known for their cornick along with other products like banana chips. At present, her farm generates employment for about 25 families in the area and serves as a learning site for the "Climate Smart Farm Business School". Rimalos is also an active member of the Gonzaga Credit Cooperative and other organizations that help women in her community by providing financial credits and economic activities to non-working mothers.

The inspiring story of Francisca S. Rimalos echoes the binding theme for this year's Annual Report which is **TRANSFORMATIVE AGRICULTURE** – a different brand of agriculture that does not only focus on production but also provides a multi-lens approach to agriculture and fisheries development that is sensitive to socio-economic and environmental issues to ensure the holistic development of farming and fishing communities. More than the numbers and statistics, this Annual Report puts a face to the programs and projects of the Department and will provide readers an insight of how the interventions provided by the DA have transformed the lives of our major stakeholders in the sector.

Stories of success and resilience; passion and perseverance. The stories that really matter and the stories that inspire us to continue that noble work that we do.

(Photo by DA-AFID)



MESSAGE FROM THE SECRETARY

I welcome this Annual Report for the Year 2018 as it highlights not only the accomplishments of the Administration of President Rodrigo R. Duterte in the agriculture sector but also reports on the programs and projects of the Department of Agriculture in transforming Philippine agriculture so we can fulfill the mandate to produce sufficient, safe, nutritious, accessible and affordable food for every Filipino.

In particular, I am pleased to note that despite the almost monthly tropical weather disturbances that affected the productivity of many of our farming and fishing communities, prices went up by an average of 5.26% in the whole of 2018, resulting in higher incomes for farming and fisheries families.

The 4.01% growth in 2017 added to the 0.77% growth in 2018 means an average growth of 2.4% for the first two years of the Duterte Administration.

I am also happy to point out the hugely positive impact of our Easy Access Credit Program on the lives of many Filipino farmers and fisherfolk, and is perhaps the program with the greatest impact on improving productivity and reducing poverty in the countryside. With about P1.4-B in loans released since its launching, increased productivity has been validated with a very high repayment rate of 91%.

For 2019, the Department of Budget and Management (DBM) increased the allocation for the Easy Access Credit to P2.4B and with expected allocation of another P1-B under the Rice Competitiveness Enhancement Fund (RCEF) for rice farmers, the program is projected to have a greater impact on productivity in the remaining three years of the Duterte Presidency.

I am also happy to note the report that even when the rice sector suffered over 1-million metric tons in losses in 2018 because of the almost monthly tropical disturbances, the harvest was still a very high 19.066-million metric tons. The Duterte Administration already posted the highest harvest of rice in the history of the country with 19.28-million metric tons in 2017, higher by over 1 million metric tons than the last production of the previous Administration.

With all our programs in place and more opportunities for the agriculture sector being mapped out, Agriculture will rebound in 2019 to 2022, with God's grace and protection.

EMMANUEL F. PIÑOL
Secretary

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CHAPTER

01

AGRICULTURE IN THE PHILIPPINE ECONOMY





AGRICULTURE IN THE PHILIPPINE ECONOMY: AN OVERVIEW

ECONOMIC PERFORMANCE

The Philippine economy has sustained its momentum and uninterrupted growth. The Gross Domestic Product (GDP) has been growing consistently by at least 6 percent for 15 consecutive quarters now making it the strongest economic growth recorded since the mid-1970s.¹

In 2018, the full-year GDP growth was at 6.2 percent and this increase was mainly driven by Manufacturing, Trade and Repair of Motor Vehicles, Motorcycles, Personal and Household Goods, and Real Estate, Renting and Business Activities. The Services sector is still the biggest contributor to the GDP accounting for a 57.70 percent share, followed by the Industry sector with 34.21 percent. The Gross Value Added (GVA) in the agriculture and fishing sector, which contributed 8.09 percent in the national output, still registered a 0.8 percent² growth despite having to deal with less favorable climatic conditions, and more and stronger typhoons.³ The positive growth in the livestock and poultry subsector were able to offset the declines recorded in the GVA of the crops and fisheries subsector which registered the highest value of agricultural damages at Php 35.5B and Php 577M, respectively.⁴ Among the agricultural commodities that registered the highest growth in GVA are poultry, coconut (including copra), rubber, banana and pineapple.

Consequently, the total value of Philippine exports declined by 0.9 percent. However, agriculture or agro-based products still retained its position as the second biggest contributor to Philippine exports with a 6.8 percent input next to manufactured goods accounting for a dominant 83.6 percent share.

PRODUCTION PERFORMANCE

The gross output in agriculture, at current prices, recorded a 6.0 percent increase in 2018. All subsectors posted output gains and leading all subsectors in gross output growth is the livestock subsector which expanded by 10 percent, followed by fisheries (9%), poultry (8%) and crops (4%). Despite tallying the lowest growth rate, the crops subsector remained as the top contributor in agricultural production accounting for 55 percent, followed by livestock (18%), fisheries (15%) and poultry (13%). For 2018, the highest growth rates in terms of production value were recorded for cabbage, seaweeds, calamansi, eggplant, onion, corn, abaca and dairy.

On the other hand, production volume levels grew steadily, except for the crops subsector which experienced a 4.0 percent decline. This can be attributed to the 1.9 million MT of palay, corn and high value crops that were damaged by weather disturbances and pest infestation that hit the country in 2018. Meanwhile, chicken and chicken eggs, coconut, seaweeds, skipjack, dairy, rubber and abaca registered the highest production volume gains.

PRICES OF AGRI-FISHERY PRODUCTS

In 2018, the prices received by farmers and fisherfolk for their produce went up by 5.62 percent, on the average across all subsectors. Compared to 2017 growth rates, the crops, poultry and fisheries subsectors increased by 2.6 percent, 0.8 percent and 1.4 percent, respectively. On the other hand, a 3.3 percent decline was recorded in the average farmgate prices of livestock products.

¹ NEDA.

² Includes Forestry.

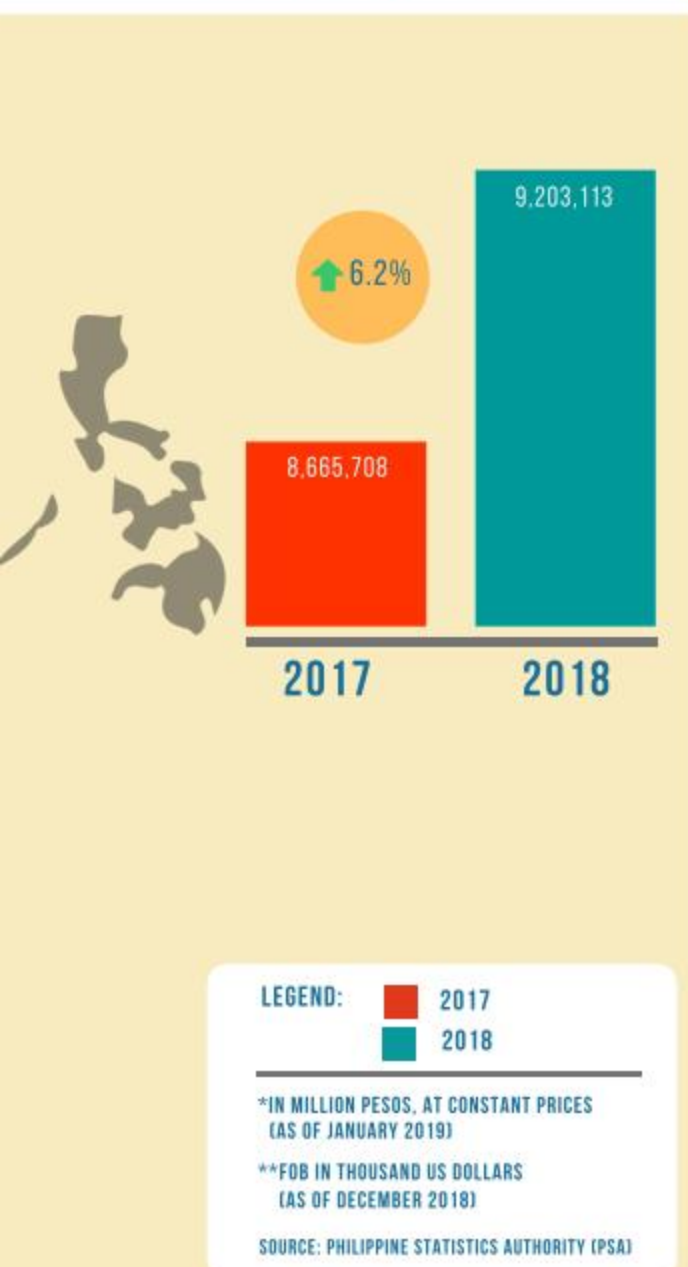
³ Data from PAGASA shows that although, overall, there were relatively fewer tropical cyclones recorded in 2018 (21) than in 2017 (22), the weather disturbances experienced in 2018 were more devastating considering that there were 8 typhoons recorded compared to just 4 in 2017.

⁴ Data on agricultural damages from the DA-Field Operations Service (FOS).

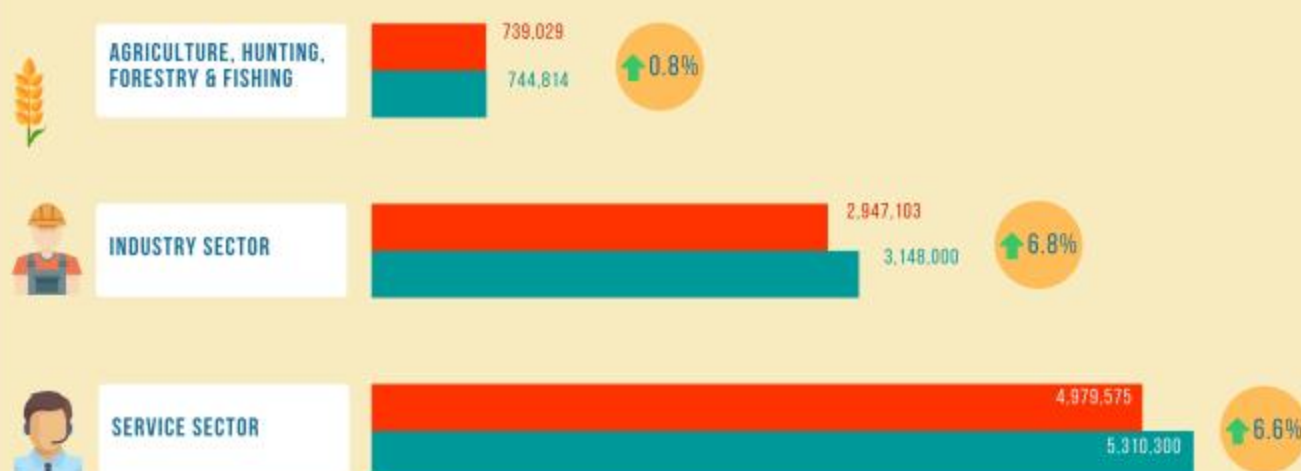


SHARE OF THE AGRICULTURE & FISHERIES SECTOR IN THE NATIONAL OUTPUT

FIGURE 11. GROSS DOMESTIC PRODUCT*, 2017-2018



11.1 BY INDUSTRIAL ORIGIN



11.2 SHARE IN THE 2018 GDP

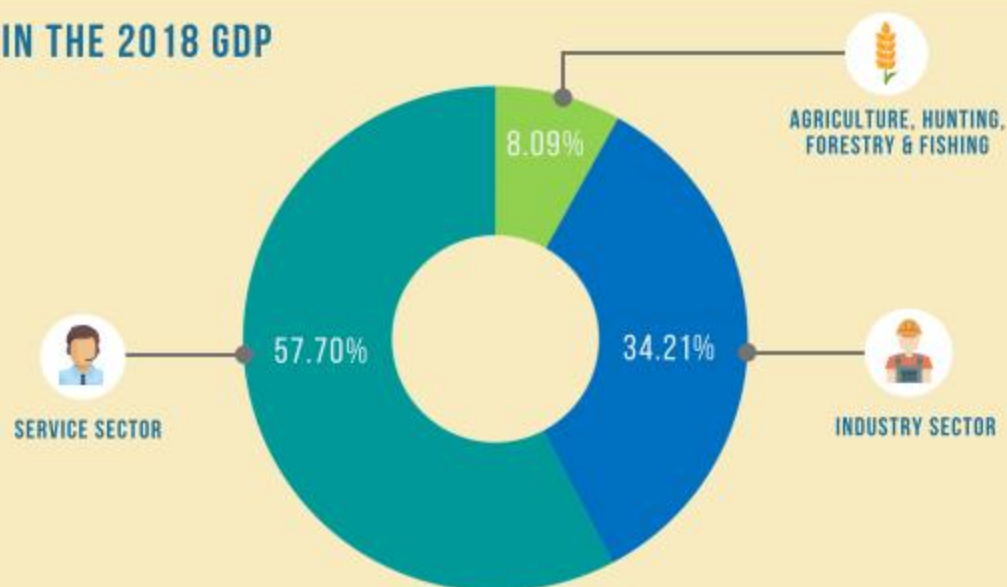
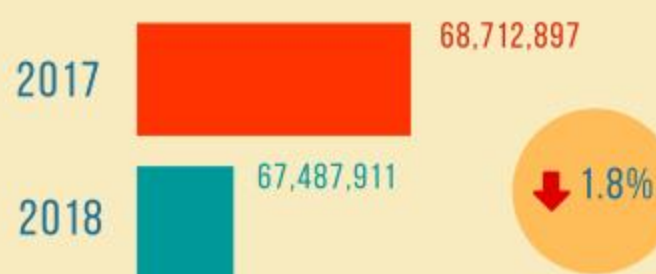
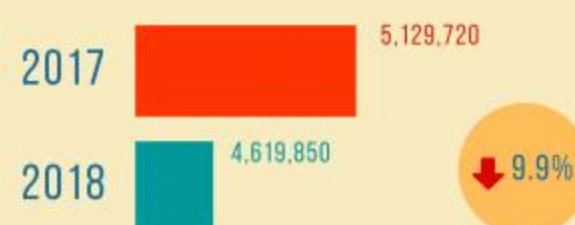


FIGURE 12. VALUE OF PHILIPPINE EXPORTS**, 2017-2018

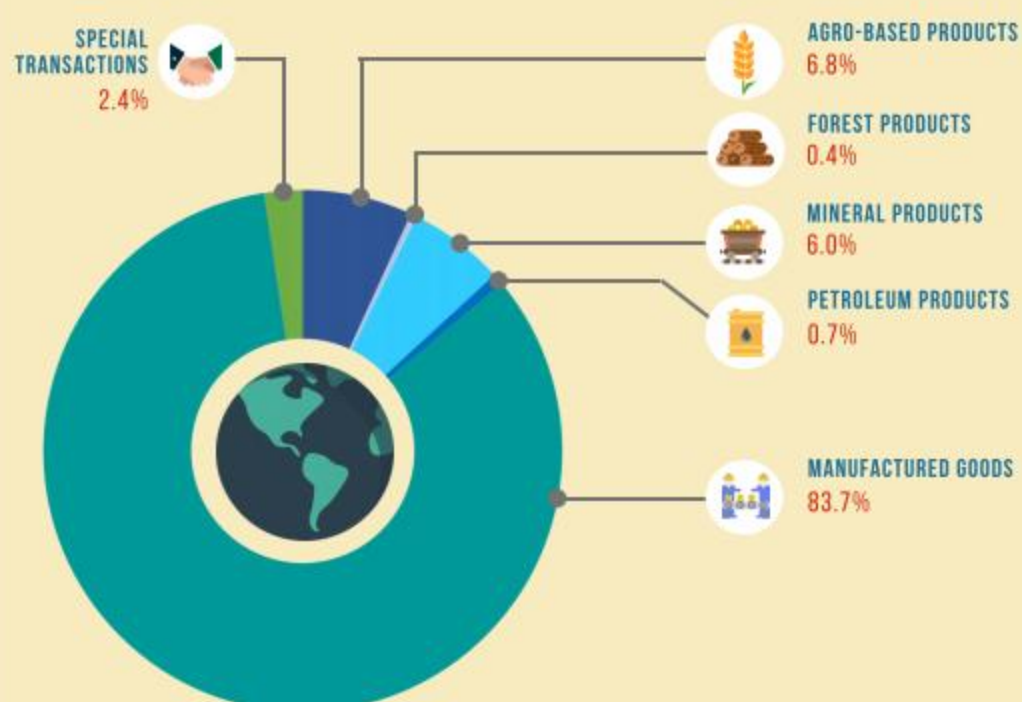
TOTAL EXPORTS



12.1 TOTAL AGRO-BASED PRODUCTS EXPORTS



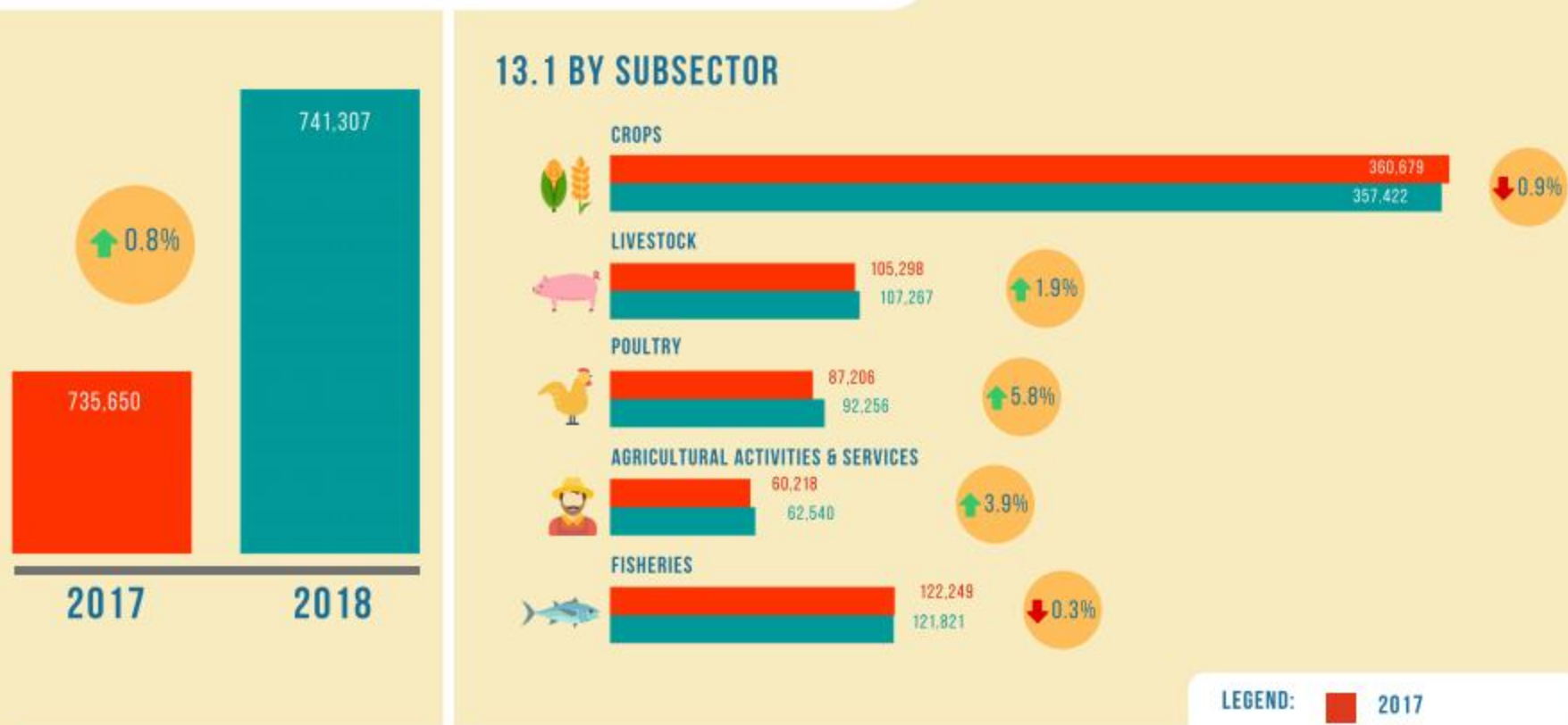
12.2 SHARE IN 2018 TOTAL EXPORTS (BY MAJOR TYPE OF GOODS)



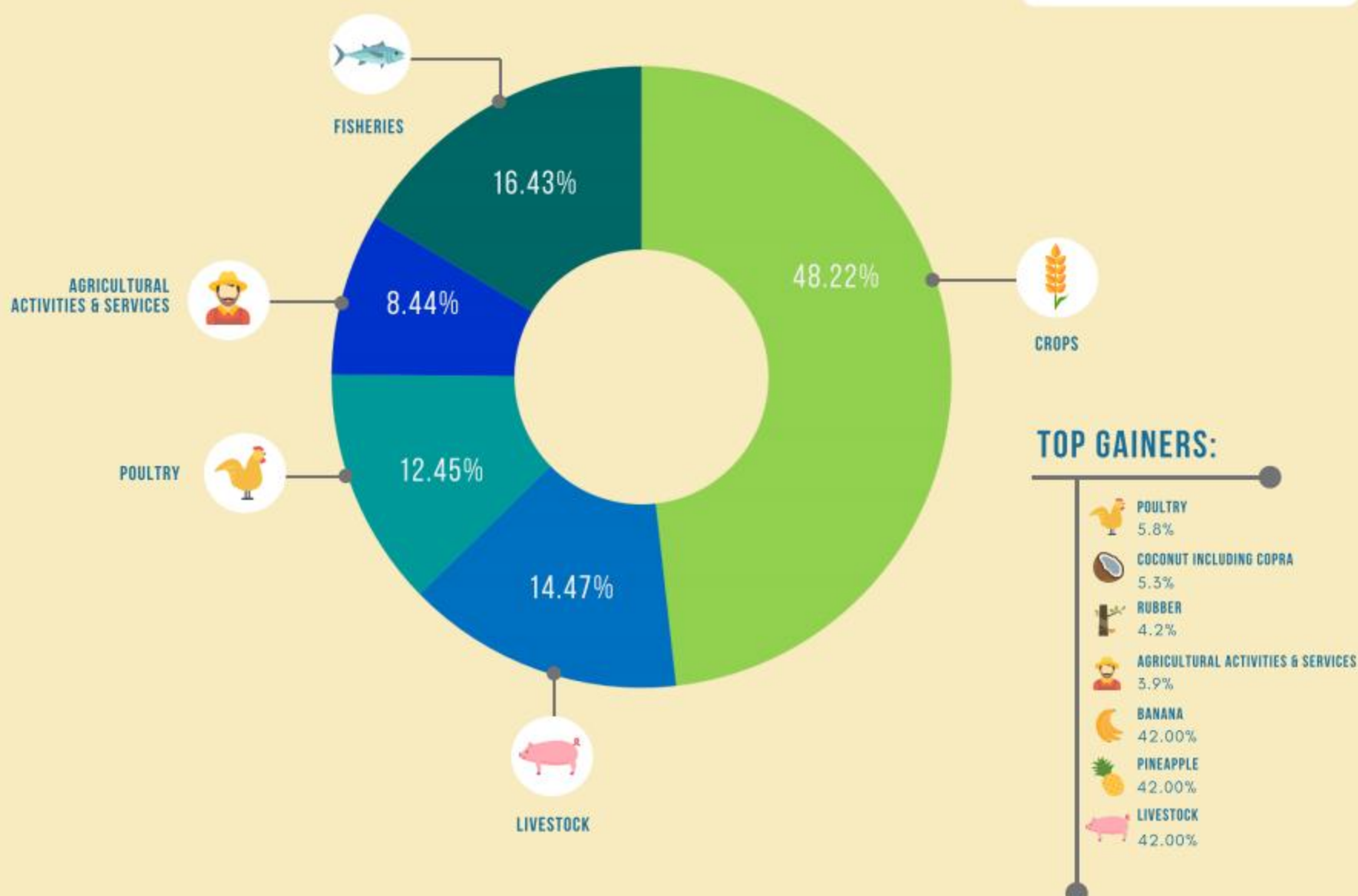


SHARE OF THE AGRICULTURE & FISHERIES SECTOR IN THE NATIONAL OUTPUT

FIGURE 13. GROSS VALUE ADDED*, 2017-2018



13.2 SHARE IN THE 2018 GVA





PERFORMANCE OF PHILIPPINE AGRICULTURE



GROSS VALUE OF
AGRICULTURAL
PRODUCTION*

**PHP 1.822
TRILLION**

**at current prices*

FIGURE 14. SUBSECTORS' SHARE IN AGRICULTURAL PRODUCTION

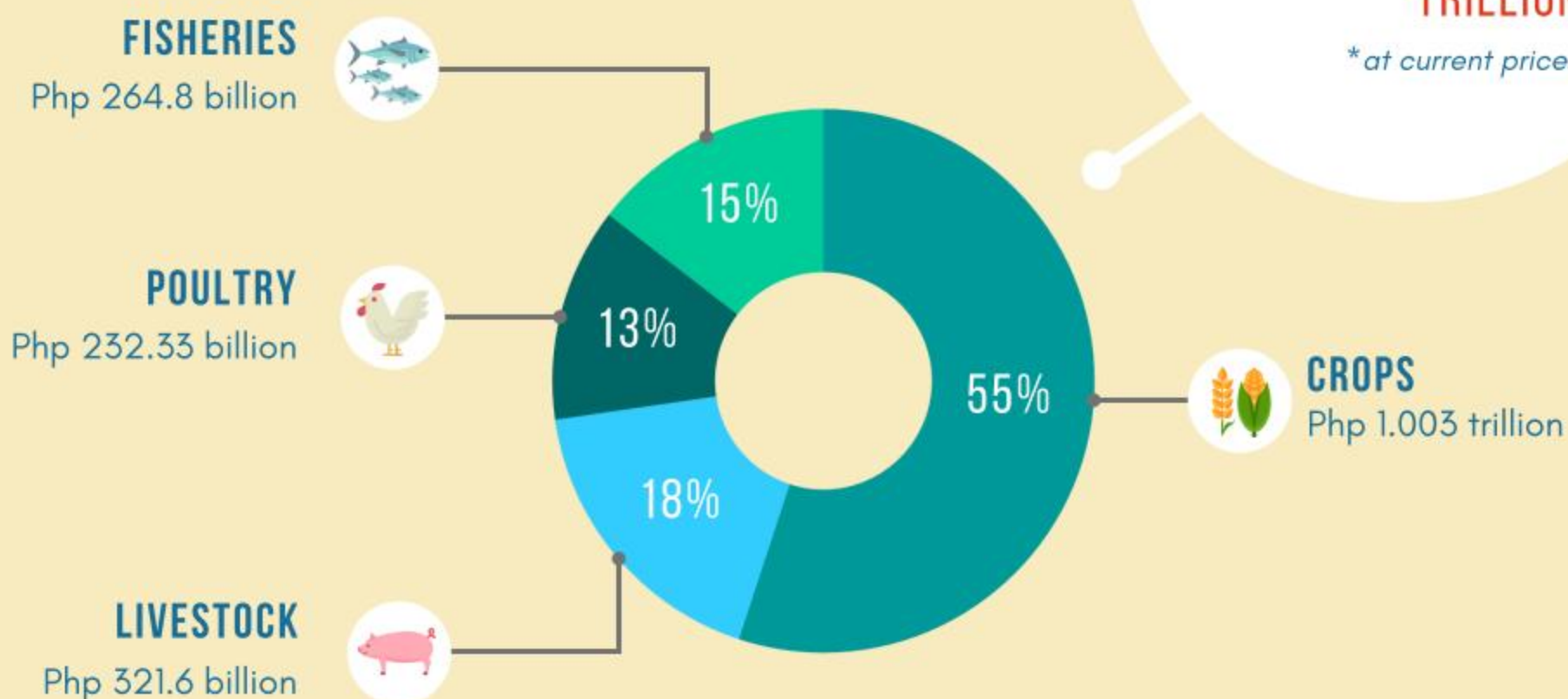
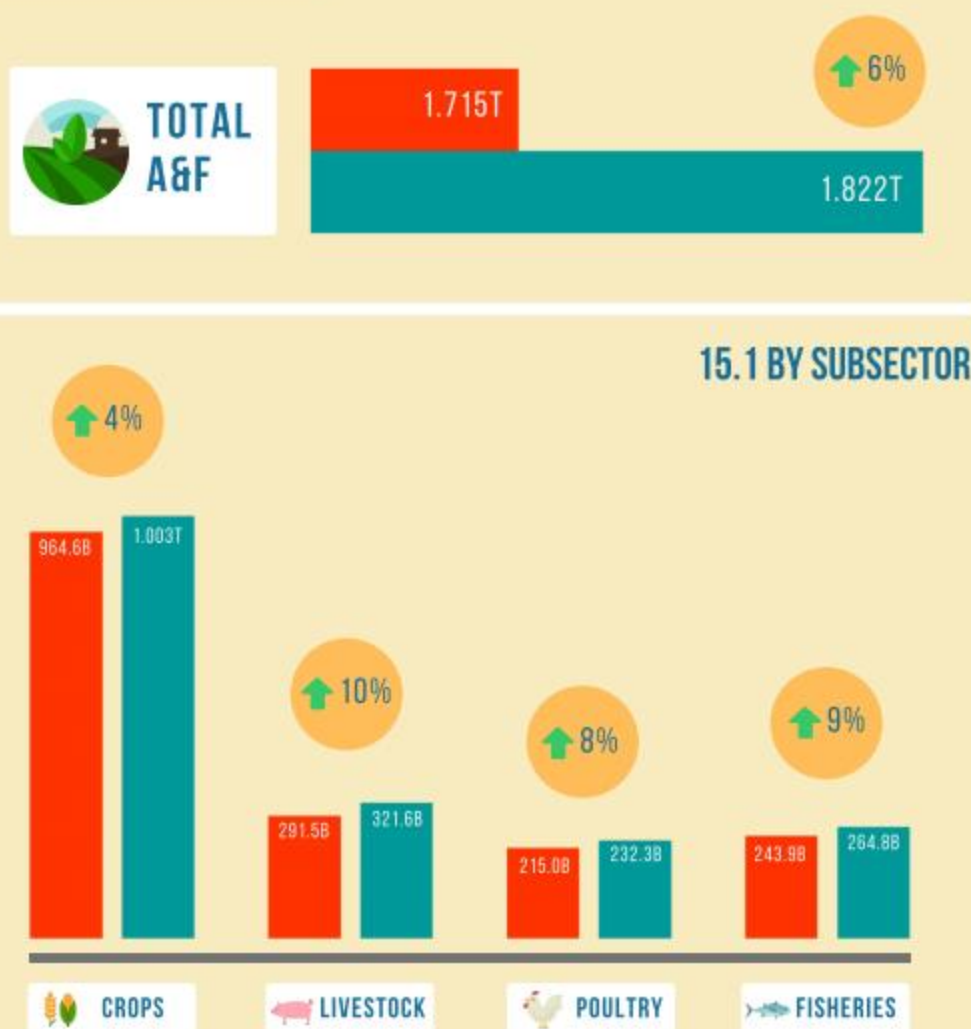


FIGURE 15. VALUE OF PRODUCTION*, 2017-2018



LEGEND:
2017
2018

*IN PESOS, AT CURRENT PRICES
SOURCE: PHILIPPINE STATISTICS AUTHORITY (PSA)





PERFORMANCE OF PHILIPPINE AGRICULTURE

FIGURE 16. VOLUME OF PRODUCTION*, 2017-2018

TOP GAINERS:

	CHICKEN EGG	8.43%
	CHICKEN	5.20%
	COCONUT	4.95%
	SEAWEED	4.45%
	SKIPJACK	4.33%
	DAIRY	4.11%
	RUBBER	4.03%
	ABACA	3.96%

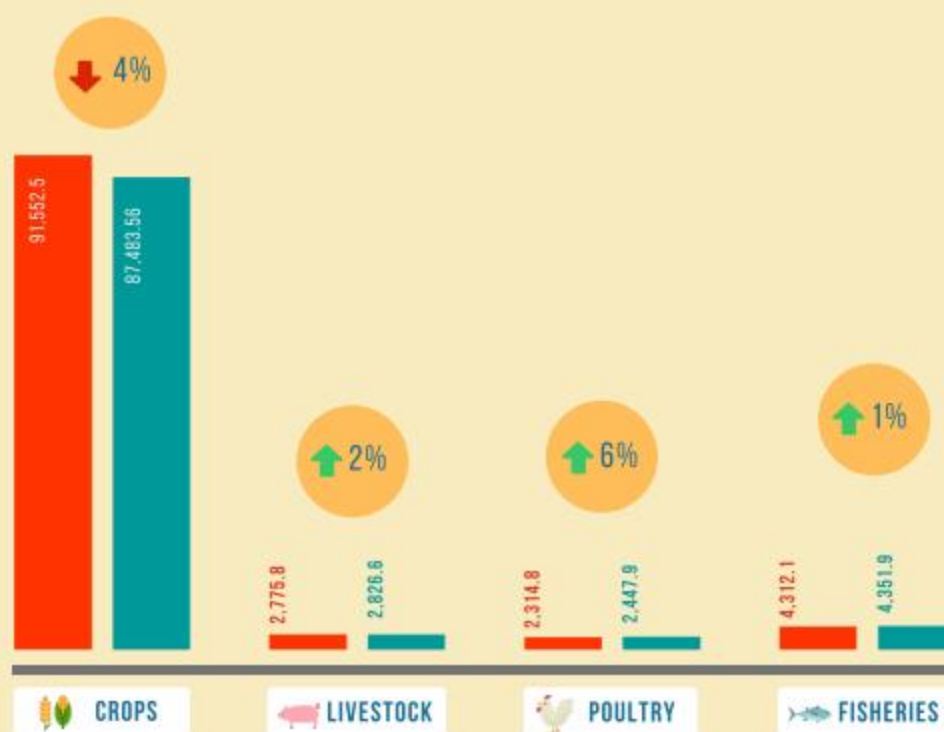


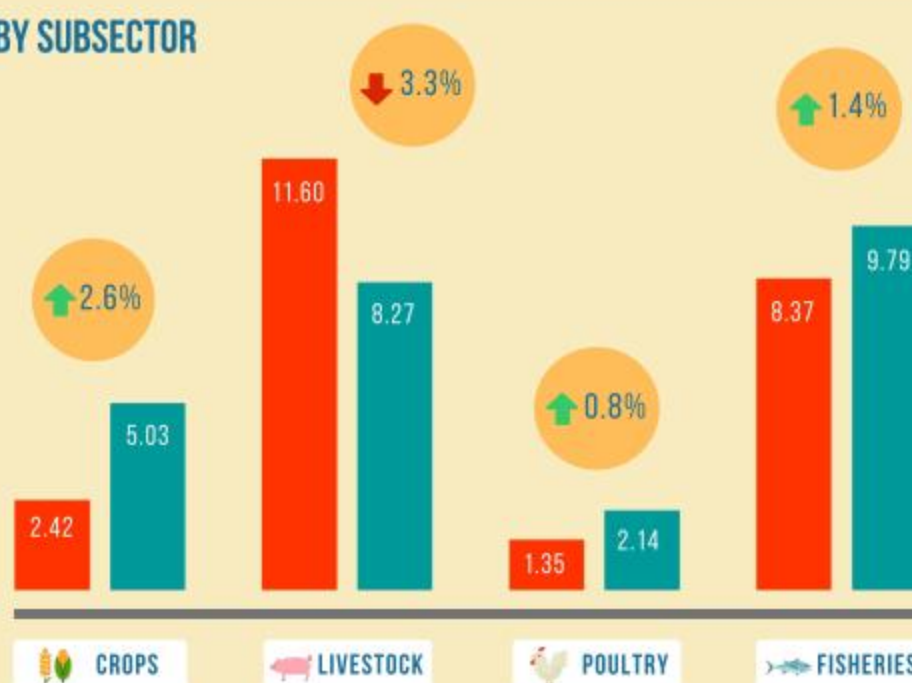
FIGURE 17. AVERAGE FARMGATE PRICES**, 2016-2018

TOP GAINERS: (2017-2018)

	CABBAGE	44.42%
	CALAMANSI	33.37%
	ONION	31.49%
	EGGPLANT	27.86%
	SEAWEED	25.94%
	CORN	17.34%
	MILKFISH	12.77%
	TOBACCO	11.93%
	PALAY	11.59%



17.1 BY SUBSECTOR



LEGEND:

■	2017 / 2016-17
■	2018 / 2017-18

*IN THOUSAND METRIC TONS

**IN PERCENT (COMPUTED FROM PESOS/KG PRICES)

SOURCE: PHILIPPINE STATISTICS AUTHORITY (PSA)



PERFORMANCE OF PHILIPPINE AGRICULTURE

FIGURE 18. VALUE OF TOTAL AGRICULTURAL LOSSES*, 2017-2018

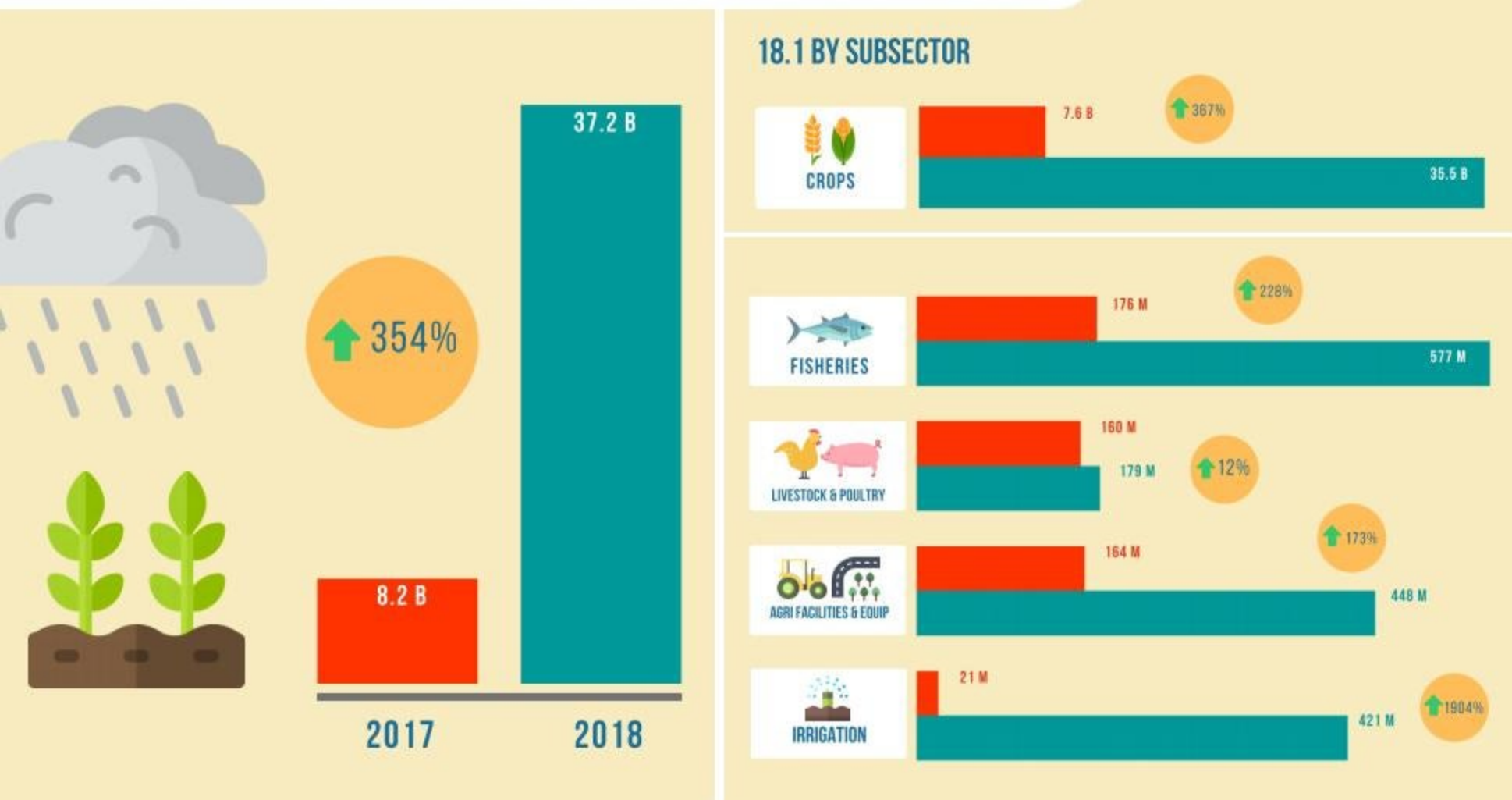


FIGURE 19. VOLUME OF PRODUCTION LOSSES**, 2017-2018



LEGEND:

2017
2018

*IN PESOS

**IN MT, CROPS ONLY

SOURCE: DA - FIELD OPERATIONS SERVICE (FOS).

CHAPTER

02

HIGH-IMPACT PROGRAMS

FARM-TO-MARKET ROADS



SOLAR-POWERED IRRIGATION PROJECTS



AGRICULTURAL MACHINERY, EQUIPMENT & FACILITIES



LOGISTICS AND TRANSPORT



EASY ACCESS CREDIT & INSURANCE





FARM-TO-MARKET ROADS (FMR)

FMRs serve as essential infrastructure to ensure the timely delivery of farms produce and inputs. It also improves access to trading facilities which consequently increases access to value chains and food availability.

For FY 2018, under the FMR Development Program alone, the Department of Agriculture funded 1,201 FMR projects nationwide amounting to Php 8.9B. Of which, 701 projects were completed with a total length of 524 kilometers. FMR projects under the Philippine Rural Development Project (PRDP) I-BUILD Component is presented in **Chapter 12**.

1,201 FMR projects funded
PHP 8.9B total amount of FMR projects funded
701 FMR projects completed
524 KM total length of FMR projects completed

** As of May 2019 data from FMRDP*

** excluding accomplishment from other DA locally-funded and foreign-assisted projects*



SOLAR-POWERED IRRIGATION SYSTEMS (SPIS)

President Rodrigo Duterte, together with Agriculture Secretary Emmanuel F. Piñol, switched on the first solar-powered irrigation system (SPIS) during the launching ceremony of the prototype in Barangay New Janiway in M'Lang, North Cotabato on February 3, 2017. With the SPIS in place, the rice fields in Brgy. New Janiway can harvest twice a year at 120 sacks per hectare per cropping season with the full operation of the P7.9-million worth irrigation project. This is fifty percent more than its previous yield of 80 sacks per hectare once a year.

The solar-powered irrigation system was designed to irrigate lands as wide as 100 to 150 hectares and pump up to 1,000 gallons of water a day on intense hot days and 400 gallons during gloomy days. SPIS presents a promising alternative in catering to the irrigation needs of the country. Aside from being more sustainable and environment-friendly as compared to fuel driven irrigation pumps, solar powered irrigation is cheaper and takes shorter time to build than dams. With the Php 44 billion approved budget for SPIS projects nationwide intended to support the

Department's goal of achieving greater productivity, the DA targets to construct about 6,200 units of SPIS which is expected to irrigate 502,000 hectares. As of December 31, 2018, the DA was able to fund 191 SPIS projects nationwide. Of which, 20 are already completed; 110 are currently under construction or installation; and 61 are for construction.

191 SPIS projects funded nationwide
20 completed
110 ongoing construction/installation
61 for construction






AGRICULTURAL MACHINERIES, EQUIPMENT AND FACILITIES

The third high-impact program of the Department is the provision of production and postharvest machinery, equipment and facilities. This program intends to raise the level of farm mechanization in order to improve agricultural productivity and competitiveness, at par with Asian neighbors.

This program is consistent to the Secretary's 10-basic foundations for agriculture and fisheries. Among these are the thrust for (a) the intensive technology updating and sharing, modernization and mechanization program; and (b) the provision of strategic and effective post-harvest, storage and processing facility.

As of 2018, level of postharvest losses in various subsectors are currently at:

	As of 2018	2022 Target
 Rice	14%	12%
 Corn	6.61%	5.2%
 Fisheries	25%	10%

For FY 2018, DA through its various banner programs, was able to distribute 13,222 units of production & postharvest machineries and equipment, and construct, rehabilitate & upgrade 6,631 production & postharvest facilities that benefited 11,677 group beneficiaries.



For fisheries, a total of five (5) fish ports were constructed/rehabilitated while 21 projects are ongoing construction for FY 2018. The Sumisip Fish Port and Ice Plant in Basilan was completed last September 2018. The Philippine Fisheries Development Authority (PFDA) is currently maintaining eight (8) Major Regional Fish Port Complexes.

These facilities are expected to improve income generation in fishing communities by reducing losses due to spoilage.

MAJOR REGIONAL FISH PORT COMPLEXES MAINTAINED

- Camaligan Fish Port
- Davao Fish Port Complex
- General Santos Fish Port Complex
- Iloilo Fish Port Complex
- Lucena Fish Port Complex
- Navotas Fish Port Complex
- Sual Fish Port
- Zamboanga Fish Port Complex

The Philippine Center for Postharvest Development & Mechanization (PhilMech) aggressively implemented interventions focused on promoting rural and value chain development by assisting the establishment of agriculture-based rural enterprises. PhilMech developed postharvest and processing systems that add value to farmers' produce and enhance the existing practices thereby resulting to increase in income of small and medium scale processing enterprises. Through continuous coaching and mentoring of potential adopters/investors, new enterprises adopting PhilMech technologies and systems were established while capabilities of existing enterprises/farmers associations (FAs) were strengthened, thus, helping their processing operations become more efficient and sustainable.

PHILMECH-DEVELOPED POSTHARVEST TECHNOLOGIES

PhilMech continued to generate appropriate postharvest and mechanization technologies through its research and development function. Primarily, these innovations are geared towards the goal of achieving sustained and inclusive development which could be realized by increasing resource-use efficiency and productivity of farmers, reducing losses and adding value to the produce.



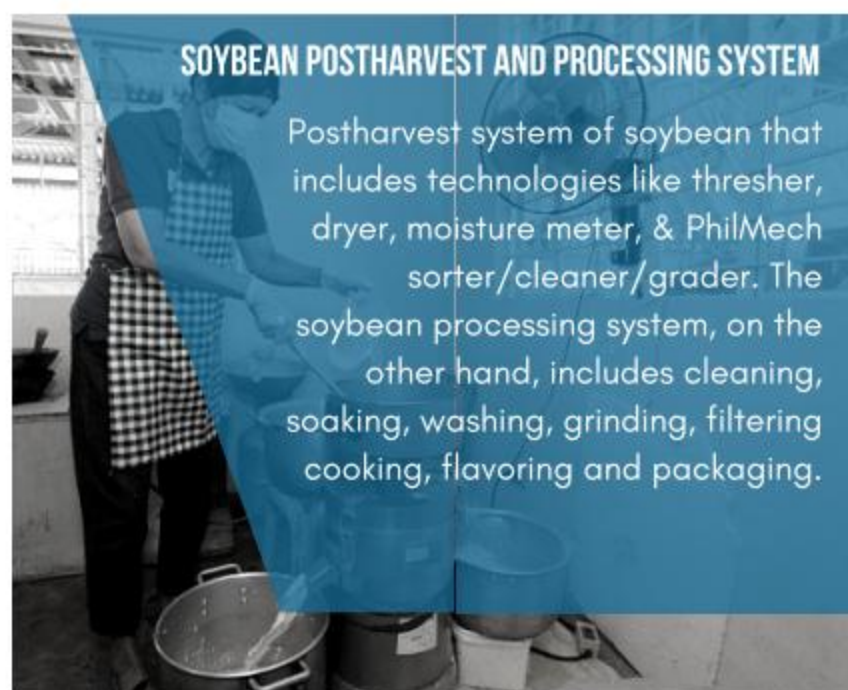
MULTI-COMMODITY SOLAR TUNNEL DRYER (MCSTD)

Alternative to sun drying and commercial mechanical dryers, used in drying different types of commodities such as tomatoes, mushroom, turmeric, chichacorn, fish, etc.



COFFEE PROCESSING SYSTEM (CPS)

Set of matched facilities comprising of pulpers, huller, moisture meter and grading system based on Specialty Coffee Association of America (SCAA) that produces high quality green coffee bean (GCB) providing farmers price premium of Php23.00/kg for raw material for specialty coffee processors



SOYBEAN POSTHARVEST AND PROCESSING SYSTEM

Postharvest system of soybean that includes technologies like thresher, dryer, moisture meter, & PhilMech sorter/cleaner/grader. The soybean processing system, on the other hand, includes cleaning, soaking, washing, grinding, filtering cooking, flavoring and packaging.

MULTI-ROW ONION SEEDER

This technology was developed to help farmers improve their productivity through the use of direct seeding method. With this implement, there is a shorter maturity period; transplanting stress is eliminated; and labor requirement from transplanting is reduced. The developed seeder is attached to a common hand tractor and operated by a single person.



CASSAVA DIGGER

PhilMech, in collaboration with the Agricultural Engineering Research Institute (AERI) of Thailand, developed this technology to reduce drudgery of manual digging or uprooting of cassava tubers.

To accelerate promotion of PhilMech generated technologies, as well as showcase complete mechanization from production to processing, learning sites or PhilMech Regional Technology Management and Demonstration Center (PRTMDC) are being established nationwide. For 2018, three (3) PRTMDCs were established in Pili, Camarines Sur; Abuyog, Leyte; and Davao City.



LOGISTICS AND TRANSPORT

Agriculture is not only about food production. Another important aspect of agriculture is how to facilitate the flow of agri-fishery products and bring affordable food to consumers.

To do this, the Department of Agriculture, through its various agencies construct facilities and develop mechanisms to effectively and efficiently transport and market the produce of farmers and fisherfolk grounded on the following strategies:



- Continuous improvement and sustainability of farmers' income by reducing the transport, freight and handling costs of food products
- Making agricultural food products available and accessible in strategic locations and closer to consumers
- Create alternative market outlet for small farmers to ensure additional income
- Provide small farmers an opportunity to have access with bigger and established market
- Direct marketing assistance to reduce unnecessary marketing layer

COMMUNITY FISH LANDING CENTERS (CFLC)

With the main goal of improving the socio-economic welfare of the fisherfolk sector by reducing post-harvest losses and promoting the sustainability of aquatic resources, CFLCs were constructed in strategic coastal areas. CFLCs serves as a landing and fish trading hub for artisanal fisherfolk and training center for fish processing, value adding, and conservation and protection of the fisheries resources.

Out of the 729 targeted CFLCs to be established nationwide, 210 units are operational, 315 units have been constructed but not yet operational and 204 are for completion as of December 2018.



AGRICULTURAL TRADING CENTERS

The Agricultural Trading Center (ATC) Program is designed as a strategic intervention of the government to effectively address the critical and long-standing agricultural and food concerns such as unfavorable prices, radical fluctuation of farm-gate prices, high prices of agricultural and fishery products and unnecessary losses due to inefficient post-harvest handling. ATCs also serve as direct marketing hubs for farmers and fisherfolk, thereby minimizing the layers of transactions and resulting in increase in their income. As of December 2018, there are ten (10) operational ATCs, five (5) completed construction but not yet operational, five (5) ATCs under construction, and one (1) ATC currently in the pre-implementation stage.



ORGANIC TRADING POSTS

The establishment of Organic Trading Posts (OTPs) under the National Organic Agriculture Program (NOAP) is designed to establish a defined market for organic producers to : a) ensure availability and accessibility of certified or registered organic inputs and organic food for farmers, producers, manufacturers and stakeholders interested in adopting organic agricultural practices; b) promote and showcase farmers organic produce such as organic inputs and products in strategic areas; and c) provide an outlet for selling organic food products.

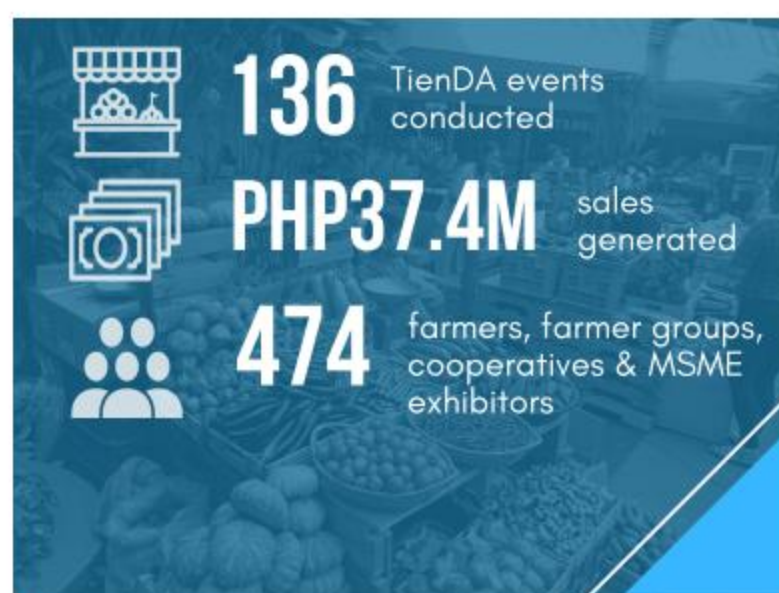
The Agribusiness and Marketing Assistance Service (AMAS), in collaboration with other concerned DA units and partner local government units (LGUs), is one of the implementing units of this program. As of December 2018, there are 59 operational OTPs, while 15 are completed but are not yet operational. Ten (10) are still awaiting completion.



TIENDA

TienDA is a market linkage scheme conceptualized to provide local producers a venue where they can sell their produce directly to the consumers at farmgate prices. It seeks to eliminate unnecessary layers of middlemen in the supply chain, hence, allowing our farmers and fisherfolk to command fair and reasonable prices for their produce. It also benefits the consumers as they are able to buy fresh and cheaper agri-fishery produce from TienDA outlets.

For FY 2018, DA conducted a total of 136 TienDA events which generated total sales of Php37.4M and benefitted 474 farmers, farmer groups, cooperatives, and micro, small and medium enterprises (MSME) exhibitors.



A more extensive discussion of other Agribusiness & Marketing initiatives is presented in **Chapter 4**.



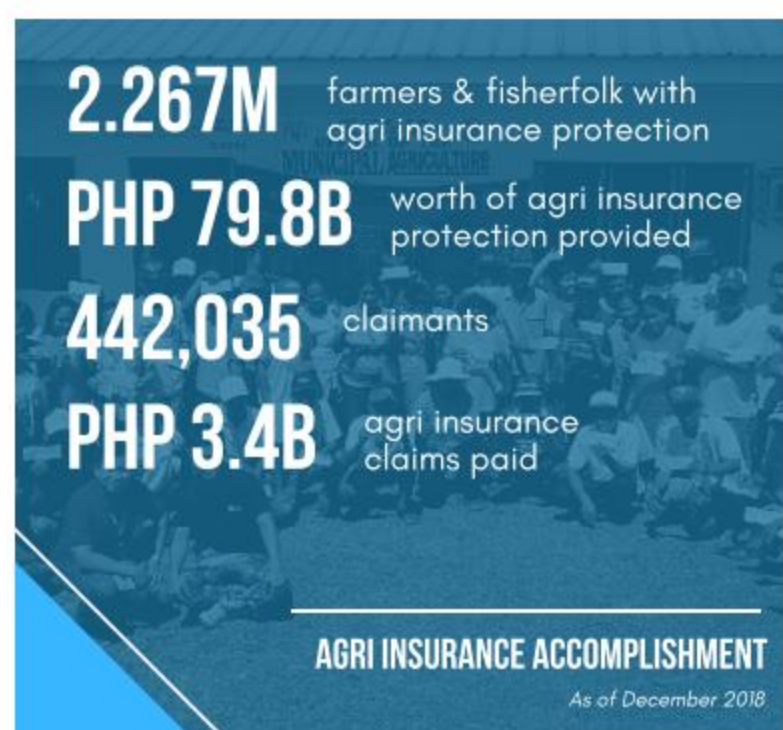
EASY ACCESS CREDIT AND INSURANCE

PRODUCTION LOAN EASY ACCESS (PLEA)

Launched in 2017, PLEA is an easy access credit program developed to provide fast, convenient and affordable credit to small farmers and fisherfolk (SFF). It is being managed by the Agricultural Credit Policy Council (ACPC) with identified lending conduits such as cooperatives, cooperative banks, farmers & fishers' associations and NGOs.

SURVIVAL AND RECOVERY LOAN (SURE)

SURE is a quick-response, post disaster emergency and recovery loan assistance developed to provide support to the immediate rehabilitation of agricultural and livelihood activities of small farmers and fisherfolk affected by natural calamities and adversities.



AGRICULTURAL INSURANCE

For FY 2018, the Philippine Crop Insurance Corporation (PCIC) has provided agricultural insurance protection to 2.268M farmers and fisherfolk, 33.65% more than the 1.697M covered in 2017. Insured rice, corn and high value crop farms likewise expanded in coverage to 1.846M hectares, 39.11% more than the 1.327M hectares covered in 2017.

PCIC also provided some ₱79.824B in insurance cover to participating farmers and fisherfolk and paid out some ₱3.397B in insurance claims to 445,375 farmers and fisherfolk.

A more extensive discussion of the credit & insurance initiatives of the Department is presented in **Chapter 3**.

CHAPTER

03

EASY ACCESS AGRICULTURAL CREDIT AND INSURANCE



EASY ACCESS AGRICULTURAL FINANCING

INTENSIFIED IMPLEMENTATION OF VARIOUS LOAN PROGRAMS

The current administration has recognized that the development of easy access financing programs for key stakeholders is one of the basic foundations for a sound agriculture and fisheries sector.

Consistent with one of the key sectoral outcomes identified in the AFMP that endeavors to broaden the access and participation of farmers and fisherfolk in value chain development, various loan programs are currently being implemented by the Agricultural Credit Policy Council (ACPC) that aims to empower marginalized and small farmers and fisherfolk by providing them fast, convenient and affordable credit programs.

Production Loan Easy Access (PLEA)

Launched in 2017, PLEA aims to provide easy and accessible funding assistance to farmers and fishers. Under the credit window, a maximum of Php50,000 loan may be availed at 6% interest per annum with no collateral, payable in 2 to 10 years.



Figure 30. PLEA Accomplishments (as of Dec 2018)

Survival and Recovery Loan (SURE)

SURE is a post-disaster and recovery loan facility from ACPC. It intends to provide funding for the immediate rehabilitation of agricultural and livelihood activities of small farmers and fishers affected by typhoons, floodings and other natural disasters. Financial assistance are payable up to three (3) years at 0% interest rate to allow the farmer/fisherfolk to recover losses. The services of current financial institution (FI) and partners (lending conduits) such as cooperatives, cooperative banks, NGOs, and farmer/ fisher associations under various programs of the DA, ACPC, Landbank, and other government agencies were tapped to hasten the release of the much-needed financial assistance.



Figure 31. SURE Accomplishments (as of Jan 2019)



ACPC Director Ma. Cristina Lopez (extreme right) facilitates the distribution of E-cards containing P5,000 to more than 1,000 small farmers and fishers from Marawi City

Working Capital Loan Easy Access (CLEA)

CLEA is a credit window that aims to finance the working capital requirements for trading, marketing and processing of agri-fisheries products. It provides financial loans up to Php5M payable up to five (5) years based on cash flow at 6% annual interest. This credit window targets to assist cooperatives and associations of marginalized and small farmers and fisherfolk.

Agriculture & Fisheries Machinery & Equipment Credit (AFME)

To finance the acquisition of machinery, equipment, and/or facilities for agri-fishery production, harvest and post-harvest, MLEA is a credit window that extends financial loan packages to individual and organized marginalized and small farmers and fisherfolk payable up to 10 years at 6% interest per annum.

MALIMONO MPC: PLEA'S FIRST LENDING CONDUIT CONTINUES TO EMPOWER FARMERS AND FISHERS THROUGH EASY ACCESS CREDIT



In order to reach the unbanked, underbanked, and underserved rural areas, the Agricultural Credit Policy Council, the Department of Agriculture's principal agri-fishery finance institution, partners with farmer and fisher cooperatives, rural banks, cooperative banks, associations, and non-government organizations, accrediting them as lending conduits to disburse loan funds under the Production Loan Easy Access (PLEA) program.

The Malimono Multi-Purpose Cooperative (Malimono MPC) is one of these lending conduits, operating in Malimono, Surigao del Norte, where the PLEA program was launched back in June 2017.

"Noong bumisita si DA Secretary Emmanuel F. Piñol, nakita niya ang potential ng Malimono, lalong-lalo ng ating mga magsasaka at mangangisda," recalls Mr. Dennis Ladres, Chairperson of Malimono MPC. He commends the steadfast advocacy of DA and ACPC to provide farmers and fisherfolk with adequate technical and financial assistance, and is proud to call his cooperative an avenue through which the government can provide these services.

Founded in 1997, the cooperative has grown from having 19 principal members to 674 members today, with the majority being marginal and small farmers and fisherfolk (MSFF). As ACPC entrusted Malimono MPC with a P15M fund for PLEA, 353 of its MSFF members were granted loans of up to P50,000 to finance their agri-fishery production.



Malimono MPC Chair Dennis Ladres takes pride in saying that their farmer and fisher borrowers can be trusted to pay off their loans responsibly.

Without the PLEA, Mr. Ladres observes that their farmer/fisherfolk members have limited options when it comes to credit. Formal financial institutions usually have too many application requirements that marginal farmers and fisherfolk have difficulty complying with, while informal lenders tend to charge steep interest rates.

The PLEA program, with its minimal requirements and low interest rate of 6% per annum, proves to be the solution. The PLEA gives members adequate time to pay off their loans, and allows them to re-avail of loans after every lending cycle.

Rice farmer Nelson Gallana from Brgy. Cantapoy and fisherman Freddie Trajano from Brgy. Karihatag both had negative experiences borrowing from traders and “5-6” lending schemes. They both expressed their relief at the affordable interest rate, reasonable application process, and convenient payment scheme of PLEA.

“Dako ang diperensya sa PLEA kontra sa informal lenders (Malaki ang diperensya ng PLEA kontra sa informal lenders),” says Nelson, comparing the PLEA program with his experience with traders, who charged him as much as three sacks of palay for every P1,000 loan, a payment worth double the loan amount.

He used his P20,000 loan from PLEA to buy fertilizer, pesticide and other farming inputs. Since he no longer had to surrender his produce as part of the payment, he has increased production from 16 sacks to 30 sacks of palay from his half-hectare farm. Now, he earns more to support the needs of his family.

Meanwhile, Freddie used the Php50,000 loan granted to him to finance his pump boat and buy other fishing equipment. He used to borrow from lenders who charged up to double the loan amount, making it difficult for him to pay with his unstable income.

Now with PLEA, he carefully budgets his earnings to separate his loan payments from his family expenses, and even sets aside some savings. He is hopeful that he and his fellow fisherfolk will be able to improve their financial situations and uplift their lives.



Nelson Gallana was able to increase the production of his half-hectare farm in Brgy. Cantapoy, Malimono by almost double with the P20,000 loan from PLEA, which he used to buy fertilizer, pesticide and other farming inputs.

Despite Malimono’s poverty incidence rate per family of 90% in 2017, Malimono MPC PLEA borrowers registered a record-high 195% repayment rate at one point due to advance payments. Mr. Ladres takes pride in the assurance that their farmer and fisher borrowers can be trusted to pay off their loans responsibly. Their collection officers’ efforts to encourage borrowers with regular reminders and visits have evidently paid off.



Freddie Trajano used the P50,000 loan granted to him through PLEA to finance his pump boat and buy other fishing equipment. His income is now stable, and he is even able to set aside some savings.

Aside from credit, Malimono MPC’s mission to empower members and allow them to sustain and manage their resources is also carried out through education, including financial literacy, bookkeeping, accounting, leadership and governance training.

DA-ACPC’s quest to provide affordable, accessible, and sustainable credit for small farmers and fisherfolk nationwide would not be possible without its partner lending conduits, like Malimono MPC, actively working at the community level.

BREAKING THE DEBT CYCLE: PLEA HELPS BLAAN NATIVE

It was a huge sigh of relief for 50-year-old corn farmer Gilda Montong to finally break free from the bondage of debt she was into just so she could finance her two-hectare farm.

"Sa 5-6 at sa traders ako nangungutang noon dahil wala namang ibang malapitan," said Gilda who resides at Sitio Balite, Barangay Alkikan, Malungon, Sarangani. "Kapag P10,000 ang inutang ko, 20% ang interes kada buwan. Sa apat na buwan, P8,000 na ang tubo."

According to Gilda, lenders require them to pay the 20% interest monthly while the principal amount must be paid after the harvest. "Pag pina-timbang at nabenta na ang aming mais, tama lang na pambayad para sa aming mga inutang," said Gilda.

Time and again, Gilda would borrow from other lenders to recompense for previous debts as the interest would increase if their payments were late. "Nahhirapan ako sa pagbu-budget sa aking estudyante at sa araw araw naming pang-kain. Kaya ang nangyayari, utang lang kami ng utang," she recalled.

General Manager Ramonito Secreto of the Sarangani Vegetable Seed Growers Multi-Purpose Cooperative (SAVESEGROW MPC) believes that government programs in the past failed to reach Barangay Alkikan, Malungon due to its remoteness as one needs to traverse 18 kilometers of extreme rough road to reach the area.



Aerial shot of Sitio Balite, Malungon, Sarangani Province. The mountainous area is home to many members of the Blaan ethnic group.

The landlocked Municipality of Malungon is home to the Blaan Tribe, the dominant Indigenous Peoples groups in Sarangani Province. Gilda belongs to said tribe, whose members usually engage in corn, vegetable and coconut farming.

"Mga traders lang ang umaakyat sa bundok para magpa-utang. Bukod sa malaking interes, may trucking charge pa sila," GM Secreto said, referring to the fees the farmers need to pay for the transportation of their harvests. For a 10-ton produce, farmers would usually pay P10,000 as trucking charge, according to Secreto.

The turning point for Gilda's journey to financial freedom happened when she applied as member of the SAVESEGROW MPC, a partner lending conduit of the Department of Agriculture - Agricultural Credit Policy Council (DA-ACPC) for the Production Loan Easy Access (PLEA).

"Ang nauna kong nahiram sa PLEA ay P48,000 na nabayaran ko pagkatapos ng harvest," said Gilda who already borrowed twice under the loan facility. "Ginamit ko pang-bili ng seeds at fertilizer."

Aside from the affordable interest rate, Gilda lauds the loan facility's quick loan release which is very crucial for farmers. With her income from PLEA, Gilda was able to buy a horse and a buffalo. "Ang kabayo ginagamit panghakot ng mga ani namin at yung kalabaw naman ginagamit sa pag-araro," Gilda said. "Nang dahil sa PLEA, nakaharvest ako ng 197 sacks. Bayad lahat ng utang ko," she added.

To further help their members especially from abusive traders, SAVESEGROW MPC directly buys the produce of the farmers at reasonable prices. The cooperative also does not charge trucking fee unlike their previous buyers.

Gilda shared that to avoid having past due, she makes sure to pay her loan obligation on time or after every harvest. "Ang sinasabi ko sa mga kasamahan kong farmers, ang utang ay kailangang bayaran. Kung meron tayong harvest, huwag ibebenta sa iba. Dapat sa coop lang dahil doon tayo nangungutang," said Gilda.

Gilda is grateful to the SAVESEGROW and the DA-ACPC for reaching out to them despite the inaccessibility of their community. With all the benefits, Gilda makes sure to share the good news to others. "Sinabihan ko din yung iba kong mga kasamahan na magpa-member din sila sa coop para maka-avail din sila ng PLEA at at maka-ahon din sa hirap," she said.

CREATION OF LOFTS

One of the key transition activities in the impending shift from subsidy to easy access credit is the creation of loan facilitation teams (LoFTs). The LoFTs, composed of representatives from various DA attached agencies and LGUs, at the regional and provincial levels, provide technical assistance to farmers and fishers on credit program awareness, loan acquisition, utilization and repayment. Aside from answering queries and providing information on credit policies and programs, LoFTs will also guide marginalized and small farmers and fisherfolks in complying with loan documentary requirements including the crafting of project proposals, business plans, and farm plan and budget.

STREAMLINING OF PROCESSES

Studies show that small farmers and fishers are apprehensive or do not borrow from formal sources due to the tedious application process, and voluminous documentary requirements. To encourage more small farmers and fishers to borrow from formal sources, ACPC lending programs are designed to require less application documents, in shorter processing time. All of ACPC's credit programs which were conceptualized and implemented since year 2017 were founded on the principle of accessibility, affordability and timeliness. As such documentary requirements and application procedures, even on the onset of program implementation, have already been streamlined.

PLEA served as the model from which succeeding loan programs were patterned from. While ACPC has generally streamlined the processes for PLEA and other easy access financing facilities, other supporting structure and strategies were implemented to make credit delivery faster and convenient:

- Deployment of provincial focal persons tasked to assist organizations and borrowers with documentary requirements and monitor field program implementation. At present, the ACPC has hired 38 field program management officers covering 43 provinces, on top of LoFTs.
- Conduct of nationwide financial literacy training for farmers and fishers and their organizations, in coordination with the Agricultural Training Institute (ATI). Included in the modules of the said training are the ACPC credit programs.
- Engagement/partnership with LBP as cashiering bank (for areas without organization/s that can be tapped as lending conduit/s).

Table 7. ACPC Lending Programs Requirements and Lending Terms

LOAN PURPOSE
<ul style="list-style-type: none"> • Purchase of production inputs • Acquisition of farm implements, machineries, postharvest/processing facilities • Purchase of other production and post harvest requirements • Marketing, trading (working capital)
LOAN AMOUNTS
<ul style="list-style-type: none"> • Based on requirement of project to be financed and the borrower's capacity to pay
INTEREST RATE
<ul style="list-style-type: none"> • Based on requirement of project to be financed and the borrower's capacity to pay
LOAN TERM/MATURITY
<ul style="list-style-type: none"> • Depends on gestation and income cycle or economic life of project to be financed
DOCUMENTATION REQUIREMENT
<ul style="list-style-type: none"> • Minimal documentation (simple application form, business plan)
COLLATERAL REQUIREMENT
<ul style="list-style-type: none"> • None, in general • Chattel mortgage, if loan is for the acquisition of farm/fishing machinery, equipment, and/or postharvest facility



"SURE" SUPPORT: RURAL WOMEN RISE OVER CALAMITY

Heavy rains and winds brought about by Typhoon Nina wreaked havoc in Bicol just right after Christmas day in 2016. Due to the severity of damage, the local governments of Catanduanes and Camarines Sur declared a state of calamity. Aside from Bicol, tropical cyclone warning signals were also hoisted over numerous provinces in CALABARZON, MIMAROPA, Central Luzon, Western, Eastern, and Central Visayas.

When it finally stormed out of the Philippine Area of Responsibility, Typhoon Nina left behind massive damages to agriculture with estimated cost pegged at P4.1 billion, living up to its notoriety as the strongest typhoon to strike the Bicol Region in 10 years.

Asuncion Reales and Melinda Imperial, two women farmers from Magarao, a 4th class municipality in Camarines Sur, were just two of the thousands affected by Nina's onslaught.

"Almost all of the rice fields were flooded including the land where I plant hybrid rice," said Asuncion who, at 64 years old, tends a two-and-a-half-hectare land with the help of her husband. She describes herself as a farmer all her life, a legacy she may have passed on to seven of her eight children who became farmers too.

On the other hand, 57-year-old Melinda described her ordeal as "frightening" simply because of the massive financial loss they had to bear from the damages. Melinda, who is a mother of 10, relies solely on the income from her harvests. Her fears were realized when the three-hectare of hybrid rice farm she manages were engulfed with water.

"We're still thankful our house was not destroyed," recounted Melinda who added that her whole family had to settle eating banana and cassava to survive during the disaster.

The Philippines is hit by an average of 20 typhoons per year, with many of the storms causing significant damage to farms and fishing communities. Small farmers, like Asuncion and Melinda, are affected the most since they usually have to borrow money to plant crops on lands they only lease. They need to get back on their feet and plant as soon as possible. Most importantly, calamity-affected farmers need to ensure that their basic needs such as food, clothing and medicine are covered.

A "SURE" SUPPORT

The Department of Agriculture, through the SURE program of ACPC, aims to provide a quick-response, post-disaster support facility for calamity-affected small farmers and fishers.

"It supports the government's goal of helping agricultural households to regain their capacity to earn a living, and to provide immediate relief through loan assistance," explained DA Secretary Emmanuel F. Piñol.

Under the SURE Program, eligible borrowers will be provided an emergency loan worth Php25,000 payable in three years at zero percent interest rate. The program focuses on areas declared as "Under State of Calamity" with considerable damage to agriculture due to natural disasters.

As of January 2019, the ACPC has released loans amounting to Php M benefitting 12,640 small farmers and fishers through 25 lending conduits.



Survival and Recovery (SURE) program beneficiary Asuncion Reales from Magarao, Camarines Sur said that she used the loan from the program to buy seeds and fertilizers so she can plant again after Typhoon Nina which destroyed her crops.



Melinda Imperial recounts her experiences during Typhoon Nina's devastation in Magarao, Camarines Sur. Loans she availed through the SURE program helped her rehabilitate her farming activity. Since engaging in formal lending, Melinda Imperial's productivity and income improved that she was able to gradually refurbish her modest house.

CREDIT DELIVERY COLLABORATION

The ACPC approved almost P33 million loans for the Bicol Region after Typhoon Nina. For faster financial support delivery, the ACPC tapped the Magarao Multi-Purpose Cooperative (MPC) as one of its partner lending conduits in the region.

This is not the first time that the ACPC and the Magarao MPC partnered to uplift the lives of farmers in the Municipality of Magarao.

In 2015, the ACPC downloaded Php2M credit fund to the MPC under the Calamity Assistance Program, which recorded a repayment rate from small farmer-borrowers of almost 100%. In 2016, the ACPC provided Php500,000 as working capital loan for a rice processing center which was given as grant by the DA.

Asuncion and Melinda, who are both long-time members of the Magarao MPC, are two of the 83 beneficiaries of the SURE program in Magarao, Camarines Sur.

"I used the loan from the SURE program to buy seeds and fertilizers so I can plant again," recalled Asuncion. "I now borrow from the coop twice a year, before every planting season."

"Magarao MPC Manager Elmar Basbas reached out to me so I can avail loans under the SURE," said Melinda who used the loan for her family's immediate needs. "It was a big relief because I don't need to pay any interest for the loan I received," she added.

According to the women farmers, prior to being members of the MPC, they used to borrow production capital from traders who usually charge excessive interest rates.

"It's like we were working for them. Nonetheless, we had no choice but to accept their terms because we didn't even know if there will be someone who will lend us money after calamities," said Melinda.

"I used to pay interest rates as high as 20% in six months to Chinese traders," exclaimed Asuncion. "Sometimes, all that is left for us are just enough to buy food."

Magarao MPC Chair Estrella Bernardo expressed her gratitude to ACPC for being one of its partners in extending assistance to small farmers in Magarao and nearby municipalities.

"With the financial assistance from ACPC, we were able to help our members start all over again after the devastation of Typhoon Nina," Bernardo said. "The coop also assisted in other financial needs of the farmers."

According to Manager Basbas, aside from loans, the cooperative also provides other benefits such as free training, insurance program, and death assistance support to their members.

"To further help in improving their lives, the Magarao MPC directly buys the harvest of our member-farmers at a reasonable price to ensure that their products will not be undervalued by abusive traders," Basbas added. Thus, Asuncion and Melinda always have a sure and fair buyer for their harvests, which reach 200 to 300 sacks each.

Asuncion and Melinda both agree that Magarao MPC has been their refuge in times of need. Though they remain as small farmers, it cannot be denied that both women farmers experienced improved productivity that led to improved lives when they engaged in formal lending through the cooperative. Slowly but surely, both were able to build a simple yet concrete house for their families which can better withstand the typhoons to come.

Amid the devastation, these women showed incredible resiliency to uphold their families – an incredible strength that needs to be recognized, emulated and supported.

AGRICULTURAL INSURANCE

As agriculture and fisheries rely on good weather, and water availability to thrive, it is easily impacted by natural events and disasters. Every year, natural disasters, and pests and diseases challenge agricultural production.

When agriculture is synonymous to disasters and risks beyond our control, it is necessary to take precautionary measures to control damage and impact to farmers. For an agricultural country like the Philippines which is also considered as one of the most disaster-prone countries in the world, agricultural insurance is of great importance.

The Philippine Crop Insurance Corporation (PCIC), as the government's lead agricultural insurer, has always been a dependable partner in helping stabilize the income of agricultural producers. It promotes the flow of credit in the countryside by providing insurance protection to qualified farmers and other agricultural stakeholders against losses of their crops and produce. This also includes death in livestock and damage in farm machinery and equipment, transport facilities and other related infrastructure arising from natural calamities, pests and diseases, and other perils beyond their effective control. PCIC extends innovative and

client-responsive insurance packages and other services thru people's organization including farmers' cooperatives, agricultural lenders and service providers.

Table 8. PCIC Insurance Products

CROP INSURANCE (RICE, CORN, HIGH VALUE CROPS)

insurance coverage against crop loss caused by natural disasters (i.e., typhoon, flood, drought, earthquake, volcanic eruption and tornado) as well as selected major pest infestation and plant pests and diseases

LIVESTOCK INSURANCE

insurance coverage against death of livestock such as cattle, carabao, horse, swine, goat, sheep, poultry, and game fowls and animals due to accidents and/or diseases, and/or other covered risks affecting the livestock

FISHERIES INSURANCE

insurance protection to fish farmers/fisherfolk/growers against losses in unharvested crop or stock in fisheries farms due to natural calamities and fortuitous events

NON-CROP INSURANCE

insurance protection for agricultural assets such as buildings, machineries, equipment, transportation facilities, and other related infrastructures directly or indirectly used in pursuit of agricultural activities including production and processing, marketing, storage, and distribution of goods and services

CREDIT & LIFE TERM INSURANCE (CLTI)

ACCIDENT AND DISMEMBERMENT SECURITY SCHEME

insurance protection for agricultural producers, farmers, fisherfolk and other stakeholders that covers death or dismemberment of the insured due to accident

AGRICULTURAL PRODUCERS PROTECTION PLAN

an insurance protection for agricultural producers, farmers, fisherfolk and other stakeholders that covers death of the insured due to accident, natural causes, and murder or assault

LOAN REPAYMENT PROTECTION PLAN

an insurance protection for agricultural producers, fisherfolk and other agricultural stakeholders that guarantees the payment of the face value or the amount of the released agricultural loans or agri-related microfinance or livelihood loans upon the death or total permanent disability of the insured borrower



Farmers from Sibutad, Zamboanga del Norte receive their indemnity checks worth P137,144 at the PCIC Extension Office in Dipolog City, Zamboanga del Norte

INCREASED INSURANCE COVERAGE AND PAYMENTS

For FY 2018, the Philippine Crop Insurance Corporation (PCIC) has provided agricultural insurance protection to 2.267M farmers and fisherfolk, 33.59% more than the 1.697M covered in 2017. Insured rice, corn and high value crop farms likewise expanded in coverage to 1.845 million hectares, 39.04% more than the 1.327M hectares covered in 2017.

Table 9. PCIC FY 2018 Insurance Production

INSURANCE LINE	FARMERS COVERED	AMOUNT OF COVER PHP (MILLION)	AREA/HEAD/POLICY
Rice	780,388	22,758.625	1,049,890.00
Corn	248,126	7,122.311	371,298.32
HVC	308,395	16,265.774	424,384.77
Livestock	335,919	7,858.609	994,879.00
Fisheries	40,496	1,530.182	5,255.00
Non-Crop	4,211	1,025.972	1,421.00
CLTI	549,961	23,259.032	167,569.00
TOTAL	2,267,496	79,820.505	3,014,797.00

PCIC provided some ₱79.824B in insurance coverage to participating farmers and fisherfolk and paid out ₱3.397B in insurance claims to 442,035 beneficiaries.

The five-year (2014–2018) data analysis would reveal that efforts of the DA, through the PCIC, have yielded breakthrough results as manifested in the significant increases in farmers covered (147%), amount of coverage (120%), claimants (407%), and indemnity paid (360%).

The PCIC exceeded their 2018 targets, and is well on track to achieving or even exceeding their goal of providing insurance coverage to 2.87M farmers by 2023.

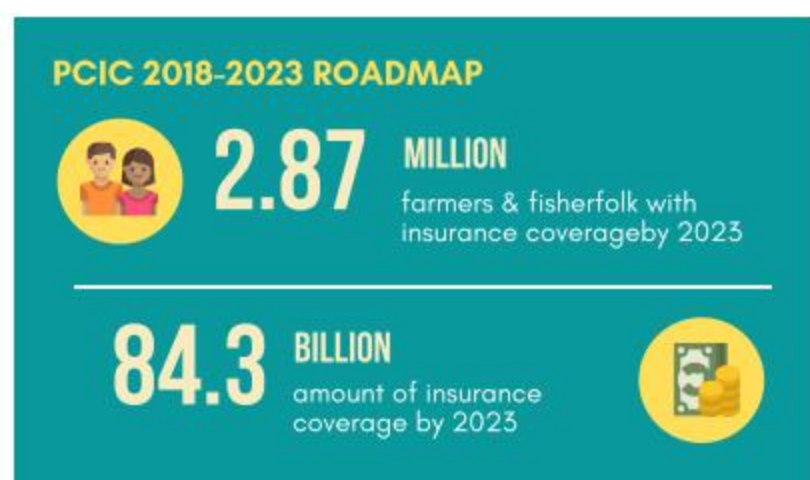
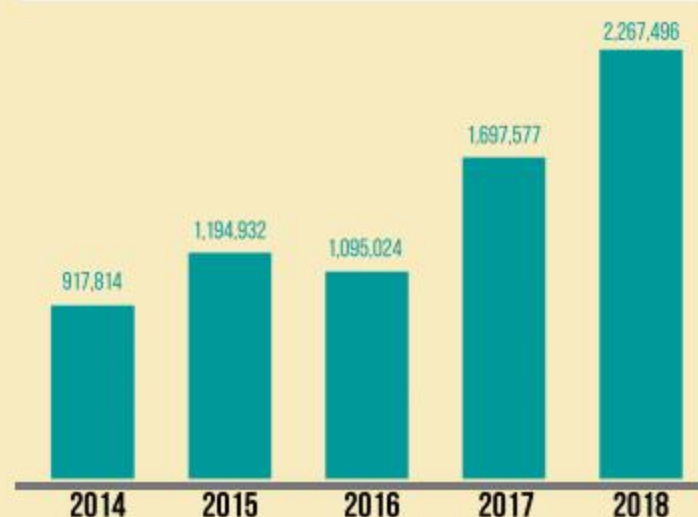
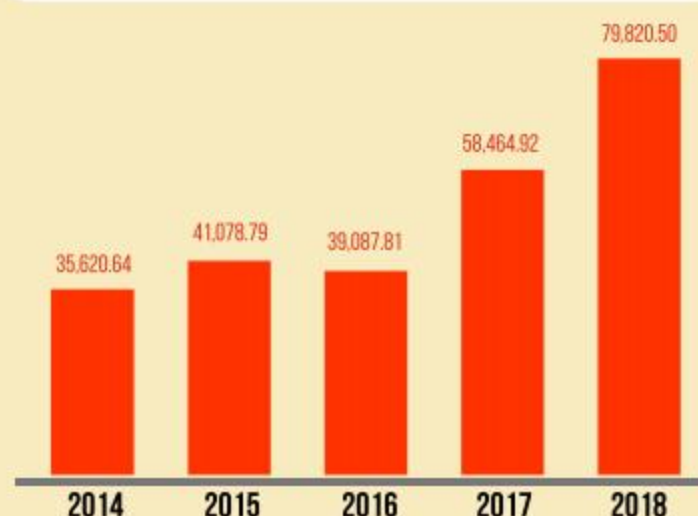


Figure 32. 2014–2018 Comparative Data on Agricultural Insurance

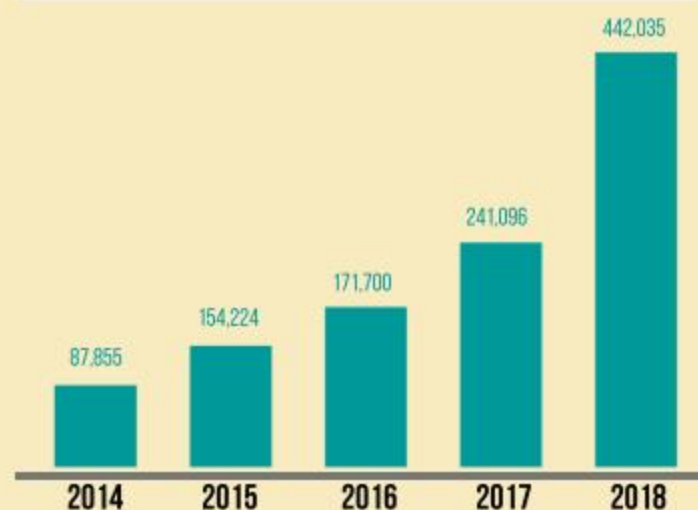
NUMBER OF FARMERS COVERED



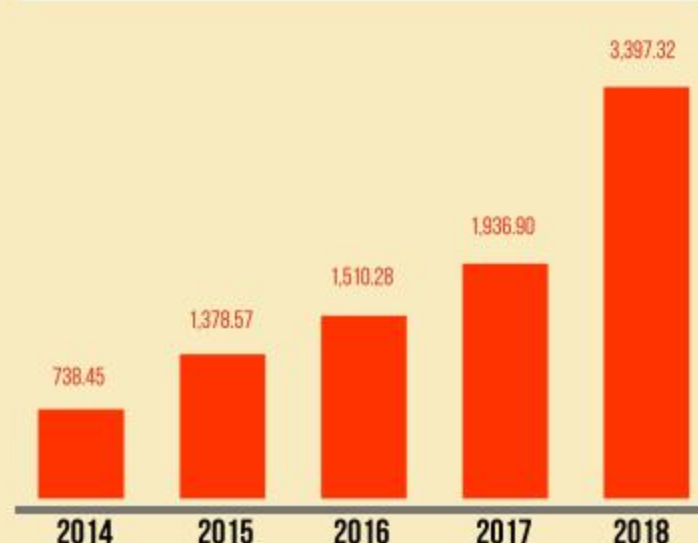
AMOUNT OF COVER (PHP MILLION)



NUMBER OF CLAIMANTS



AMOUNT OF INDEMNITY (PHP MILLION)



MARKETING AND PROMOTION INITIATIVES

To broaden agricultural insurance coverage and encourage more farmers to avail of the various insurance programs, PCIC launched various marketing and promotional activities including radio and TV plugs and guesting, and distribution of brochures, posters, pamphlets and tarpaulins to farmer-clients. For FY 2018, PCIC accomplished a total of 170 radio and TV plugs and guestings, and distributed almost 340,000 knowledge products. Moreover, PCIC attended/participated in 4,899 forums and trade exhibits.

On the other hand, the insurance arm of the DA was able to orient and train 221,654 farmers and fisherfolk participants on PCIC insurance programs.



DA-PCIC Information Caravan held at the Dipolog Sports Complex, Olingan, Dipolog City, Zamboanga del Norte

PCIC 2018 CUSTOMER SATISFACTION SURVEY

Adhering to the core values of innovation and partnership – engaging stakeholders and thinking up new ways of improving the delivery of services required by clients and stakeholders, PCIC regularly undertakes a Customer Satisfaction Survey. This initiative aims to generate feedback and measure the level of satisfaction of PCIC's primary customers, particularly the farmers regarding the delivery and quality of services provided by PCIC. Through this, customers may also recommend measures to address dissatisfaction, as well as areas for improvement.

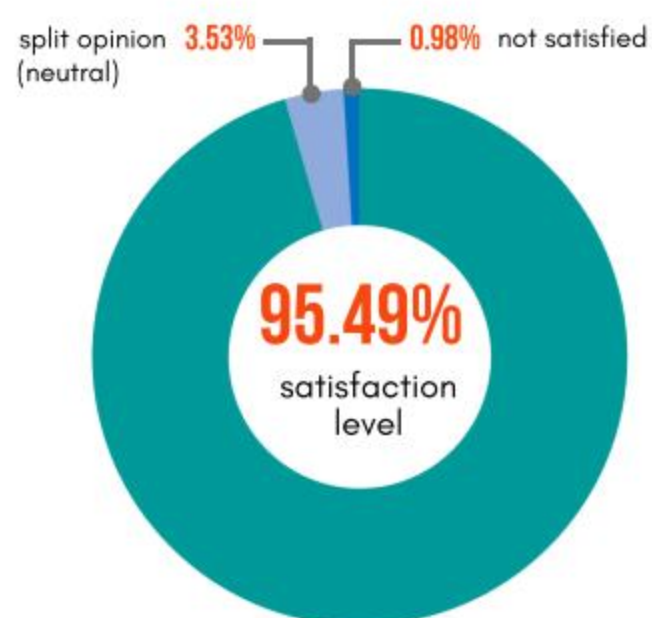


Figure 33. PCIC 2018 Customer Satisfaction Survey – Distribution of Respondents per Level of Satisfaction



Farmers from different parts of Zamboanga del Norte, whose crops were damaged by pests and affected by floods caused by typhoon Vinta, received indemnity checks from the PCIC as part of the agency's continuing efforts to help farmers recover quickly from disasters and other adversities.

PCIC distributed indemnity checks in the municipalities of Sindangan, Liloy, Labason, Tampilisan, Kalawit and Sibutad, all in the province of Zamboanga del Norte on February 21 to 23, 2018.



PCIC Regional Office 9 distributes indemnity checks worth P 384,722 to 70 farmer-claimants affected by Typhoon Vinta, flood, and pests & diseases in Tampilisan, Zamboanga del Norte on February 22, 2018.

A total of 321 farmers from the municipality of Sindangan received checks amounting to Php1.519M. Thirty-three farmers from Liloy, on the other hand, were given indemnity checks worth Php221,979. Forty beneficiaries from the municipality of Labason received a total of Php222,399 worth of checks.

Moreover, Php384,722 were distributed to 70 farmer-claimants from Tampilisan. In Kalawit, 38 farmers received Php275,232. And finally, PCIC distributed indemnity checks to farmers from Sibutad worth Php137,144.

"We thank the local officials of Zamboanga del Norte and the mayors of the different municipalities that have worked closely with us. With your help, we have distributed the indemnity checks promptly," PCIC President Jovy Bernabe said. "PCIC will continue to support farmers and fisherfolk by offering crop insurance that are affordable and even free for sustenance farmers and fisherfolk."



RENEWED PARTNERSHIP: PCIC DISTRIBUTES INDEMNITY CHECKS, RENEWS MOA WITH NEGROS OCCIDENTAL GOVERNMENT

Farmers from Negros Occidental are assured that their crops are insured with the PCIC.

This, after the agency renewed its Memorandum of Agreement (MOA) on August 16, 2018 with the provincial government of Negros Occidental to continue the implementation of the Negros First Universal Corporation Insurance Program (NFUCIP).

"We are happy to have renewed the MOA with Negros Occidental officials led by Governor Alfredo Marañon, Jr. and Vice Governor Eugenio Lacson," PCIC President Jovy Bernabe said. "With this, we look to help more farmers and fisherfolk and entrepreneurs by offering protection to their investments."

Under the NFUCIP, farmers and fisherfolk from Negros Occidental who are not included in the Registry System for Basic Sectors in Agriculture (RSBSA) master list will still be insured for free under the PCIC programs. This is because the provincial government pays for the premium of their insurance, done through the MOA. NFUCIP has provided Php24.41M to more than 30,000 farmers as of August 2018. This covers more than 33,800 hectares of farm lands. More than 15,400 farmers already received a total of Php74.85M worth of indemnity payments.



Farmers and fisherfolk included in the RSBSA master list get free insurance as their premium payments are shouldered by the national government.

With the renewal of the MOA, the provincial government can allocate an additional Php7.08M for insurance premium payments for Negros Occidental farmers to the PCIC.

Under the same MOA, farmers and fisherfolk under the NFUCIP are given free life insurance under the PCIC's Agricultural Producers Protection Plan (AP3) with an Amount of Cover (AC) of Php50,000.00 per farmer.

During the occasion, PCIC also awarded Php2.129M worth of indemnity checks to 226 insured farmers coming from the six districts of Negros Occidental Province.

CHAPTER

04

AGRIBUSINESS AND MARKETING



As the lead marketing arm of the Department, the Agribusiness and Marketing Assistance Service (AMAS), in close coordination with DA bureaus, attached agencies and corporations, other government agencies, and in partnership with NGOs and the private sector, has continuously pursued its mandate of providing and facilitating services and activities to support and promote the entry, sale, and consumption of agricultural and fishery products and by-products. For both domestic and international markets, AMAS has pushed for aggressive investments promotion to encourage and generate more innovative business ventures and agribusiness investments particularly in post-harvest activities. It has also carried out its industry support function of strengthening farmers and fisherfolk organizations/associations and industry councils by providing technical support and agribusiness market information services. AMAS has also intensified market matching and linkage initiatives to connect our farmers and fisherfolk to agribusiness (domestic and abroad).

CONDUCT OF AGRIBUSINESS INVESTMENT FORUMS AND AREA BUSINESS CONFERENCES

Agribusiness Investment Forums serve as an effective venue to promote agribusiness investment opportunities. The AgriLink Investment Forum which was conducted last October 4-5, 2018 presented to 388 participants the following topics: a) Introduction to Green Certification; b) Halal Certification; c) Kosher Certification; d) Organic Certification; e) Fair for Life Certification; f) Investment Opportunities in Hog Raising; g) Sustainable Agribusiness and Investment Poultry and High Value Crops Production in Partnership with the Local Farmers; h) Vermicomposting Production and Utilization; i) Investment Opportunities in Farm Tourism; j) DA-ACPC Credit Programs; k) DA-ACEF Lending Guidelines; and, l) Philippine Crop Insurance Corporation (PCIC) Agricultural Programs.

AMAS, in collaboration with the Regional Investment Focal in MIMAROPA, finalized a Php600,000 initial investment for a three-hectare onion farm in San Jose, Occidental Mindoro. Three hundred onion growers were provided with supplemental working capital from eight members of the Financial Literacy Philippines – a closed group of OFW investors from Singapore and two forum participants.

In Eastern Visayas, the Alboco Food Industry – a group of coffee processors also made an initial investment of Php100,000 on peanut farming to be shared by Centrisa Farm (1 hectare), Marvin Labang (1 hectare) and ASEMCO (1 hectare).



Agrilink Investment Forum

Meanwhile, the AMAS also conducted four (4) batches of Area Business Conference (ABC). Aside from capacity building and plenary sessions, ABCs also include business investment matching. These events were participated by 64 buyers, 85 suppliers/farmers, and 57 government representatives and generated total sales of Php 10.07 million. This initiative supports the Agribusiness Support for Promotion and Investment in Regional Exposition (ASPIRE) Program, in partnership with the Philippine Chamber of Commerce and Industry (PCCI).

Table 5. FY 2018 Area Business Conferences

EVENT	DATE & VENUE	PARTICIPANTS
North Luzon Business Conference	May 17-18, 2018 San Fernando, Pampanga	10 Buyers 21 Suppliers Negotiated Sales: Php 9.5M
South Luzon Business Conference	Aug 24-25, 2018 Legaspi, Albay	19 buyers 21 farmers from Reg 4A, 4B & 5 31 private representatives 26 government representatives Sales Generated: Php 9M
Visayas Business Conference	Aug 30-31, 2018 Bacolod City	25 buyers 20 farmers from Reg 6, 7 & 8 Sales Generated: Php 1.07M
Mindanao Business Conference	Sept 13-14, 2018 Tagum City	14 buyers 23 farmers from Reg 9, 10, 11, 12 & ARMM 31 government representatives Booked Sales: Php 1.9M Under Neg.: Php 42,620



ASPIRE: AGRIBUSINESS SUPPORT FOR PROMOTION AND INVESTMENT IN REGIONAL EXPOSITION



The ASPIRE Program serves as a platform to promote regional priority commodities and showcase the market's strong linkage with farmers and fisherfolk. The development of a web-based database information system as part of the program would facilitate the efficient flow of information among partners in terms of available supply and demand of the commodity.

In partnership with the Department of Trade and Industry (DTI) and the Philippine Chamber of Commerce and Industry (PCCI), DA seeks to converge the key players in agriculture business and industry through ASPIRE. As such, it has successfully facilitated 37 Business Investment Matching of MSMEs which linked 33 suppliers to 31 buyers. The program expanded the market for suppliers of different agri-fishery commodities both within and outside the country. It has also implemented an effective mechanism to cater to the raw material requirements of processors and address other gaps in the value chain.



Aside from catering to the domestic demand, various high value commodity expanded its market outside the country. With an initial shipment of 100 metric tons per week of fresh green mangoes valued at Php52 per kilo to Mega F&B, Seoul, Korea, Mr. Rolando Sakdalan of Region 12, was able to earn about Php1M.

Through ASPIRE, the Tulunan Mango Growers Association shipped 18 metric tons to KLT Foods; Malaueg Mango Producers and Marketing Cooperative sold 21.56 metric tons to Hi-Las Marketing Corporation; and Herbio Agrinature sold fruit wines from mangosteen, fresh banana, mango, and jack fruit to AFS Marketing.



The Malaueg Banana Growers Association supplied 531 kilos of Cardava bananas to Hi-Las Marketing Corporation.

Weekly, James Food Products is shipping 500 packs of banana chips to Sotto's Delicacies of Region 9, while GFA Marketing ships 400 packs to KCC of Gulam in Region 12.



Through the conduct of ABCs, the Nabua Development MPC and Muñoz Science City Products were linked to many processors, particularly RPM Pili Nuts, YNL Health Food Products, Akita Herbal Shop, and Sonrisa Farm, and supplied various raw materials including dried gabi leaves (taro).



The Golden Beans and Grains Producers Cooperative of Region 3 supplied 1,000kgs of soybeans to Philmico in 2018 and has already booked 7MT for May 2019.



Ms. Jovy Cunaes, a supplier matched to Mr. Dong Mark, a fish dealer in Ormoc City is continuously selling 2,600 kgs to 3,000 kgs of bangus valued at Php 350,000.00 to Php 400,000.00 weekly. She is now earning an additional net income of Php 60,000.00 to Php 70,000.00 per month because of this linkage.

Other commodities such as tablea rolls, banana chips, ampalaya, sweet potato, turmeric, lettuce, papaya, pinakbet, hot pepper, calamansi, herbs and spices were also matched to various markets and are already being supplied to different processors.

MAINSTREAMING OF PHILIPPINE RURAL DEVELOPMENT PROJECT'S (PRDP) GOOD PRACTICES

One of the objectives of PRDP is to mainstream good practices employed in the project's implementation to help the Department improve the way it does business. The AMAS is now capitalizing on learnings acquired from PRDP to strengthen investment generation in the A&F sector. The application of these learnings are evident in investment generation which now utilizes and refers to information from the identified priority agricultural commodities with established Value Chain Analysis (VCAs), Provincial Commodity Investment Plan (PCIPs), roadmaps, and other related documents that may be packaged into investment opportunities and in the preparation of Commodity Investment Profiles (CIPs) and Investment Concepts (ICs).

The CIP is a document that provides the current status of the commodity in terms of production, trade, industry performance, investment entry points, enabling policies, and others. The IC, on the other hand, is a document which presents the business model of an investment opportunity that will be promoted for possible funding from the private and public sectors. Templates for the CIP and IC were designed to make it user-investor friendly.

The AMAS was able to review 17 Commodity Investment Profiles and 58 Investment Concepts. Of these, 10 CIPs with ICs are ready for printing and promotion in agribusiness investment forums, inbound missions, as well as trade and investment fairs.

INTENSIFIED PRICE MONITORING AND SETTING OF SRP FOR AGRI COMMODITIES

In order to strengthen the implementation of RA 7581 or the "Price Act", the Surveillance, Monitoring and Enforcement Group (SMEG) was created through Special Order No. 1006, series of 2018. The group is tasked to regularly monitor the prices of selected agri-fishery commodities which are considered basic necessities commodities. This initiative aims to strengthen price monitoring in selected markets, namely:

1. San Juan
2. Mandaluyong
3. Mega Q-Mart
4. Farmers

5. Commonwealth
6. Marikina
7. Pasig
8. Guadalupe
9. Las Piñas
10. Taguig
11. Alabang
12. Maypajo

In coordination with the Central Bantay Presyo Monitoring Team (CBPMT), SMEG gathers data on retail prices of agricultural and fishery commodities. It identifies and investigates causes of market and price irregularities and responds to complaints and related inquiries on charging of exorbitant prices on some agri-fishery commodities. SMEG also maintains data series of monitored agri-fishery prices from selected public wet markets in Metro Manila.

A special price monitoring of basic necessities and prime agricultural commodities was organized by the DTI in collaboration with DA-AMAS. Relative to this, Price Monitoring activities were conducted in Guadalupe Market, Cartimar Market, Libertad, Pasay Market, Taguig Peoples Market, Mega Q-Mart Market, Project 4 Public Market, Kamuning Public Market, Pasig Market, Dagonoy Market and Commonwealth Public Market to ensure to the general public that there is no overpricing of agri-fishery commodities in the area.



Central Bantay Presyo Monitoring Team (CBPMT) Meeting

Moreover, the DA, DTI and NFA officially launched on October 27, 2018 the SRP for rice at the Rice Section of Commonwealth Market in Quezon City. Aside from compliance to SRP, all traders and retailers are expected to comply with the prescribed labeling of rice boxes and price tags.

As approved by the NFA Council, the SRP for rice are as follows:

Table 6. Suggested Retail Price (SRP) for Rice

Imported well-milled	P 39.00
Imported premium (PG1)	P 43.00
Imported premium (PG2)	P 40.00
Local regular-milled	P 39.00
Local well-milled	P 44.00
Local premium grade	P 47.00
Special rice	NO SRP



Secretaries Emmanuel F. Piñol (Agriculture) and Ramon Lopez (Trade and Industry) rolled-out last October 27, 2018 the Suggested Retail Price (SRP) for rice at the Commonwealth market in Quezon City.

The NFA, in coordination with other regulatory agencies, monitors the implementation and compliance to the guidelines on SRP, labelling and price tags. Meanwhile, the AMAS-SMEG is in constant coordination with the Industry Association for updates on the farmgate prices both for livestock and poultry.

OPERATIONS OF AGRICULTURAL TRADING CENTERS (ATC) AND ORGANIC TRADING POSTS (OTP)

Agricultural Trading Centers (ATC)

As of December 2018, there are 21 Agricultural Trading Centers (ATC) at various stages of implementation (see Figure 26).

In support to the ATC program, the AMAS through the Agribusiness Industry Support Division (AISD) conducted the following seminars and trainings:

A. Enterprise Development Seminars

AMAS conducted four (4) batches of enterprise development seminars that were participated by 160 participants from SMEs, farmer cooperatives, ATC management team, LGU, local agribusiness coordinator and DA-RFOs. The four (4) enterprise development seminars focused on operational ATCs in Luzon, namely: 1) Nueva Vizcaya Agricultural Terminal; 2) Regional Organic Trading Center; 3) Isabela APTC; 4) Camarines Norte APTC; 5) Nueva Ecija APTC (NEAPTC); and 6) Benguet APTC. All ATCs are intended for crops, hence, the training emphasized on good agricultural practices (GAP) on the production of lowland and highland vegetables, Philippine National Standards (PNS), and fruit/vegetable processing such as fruit wine/vinegar making, and fruit-based soap making. Also, proper product packaging and labelling was discussed for potential undertakings/opportunities on processing.

B. Productivity/Capability Enhancement and Entrepreneurship Trainings

Additionally, two (2) productivity trainings were conducted and participated by 130 participants from ATC management teams, LGU partners and DA-RFOs. An offshoot of the enterprise development seminar for NEAPTC has opened the possibility of a partnership between NEAPTC and another big cooperative in Nueva Ecija, the Golden Beans and Grains People's Cooperative (GBGPC). GBGPC basically is into soybean production and processing. Although negotiations for the partnership are still on the works, GBGPC has already applied to the Cooperative Development Authority (CDA) for the upgrading of GBGPC into the Golden Beans Agricultural Cooperative to enable it to venture into any business including marketing.

Organic Trading Posts (OTP)

Republic Act (RA) 10068 or the Organic Agriculture Act of 2010 mandates the designation of a separate area to display the organic produce. This prevents mixing it with non-organic produce in retail establishments or stores of organic produce. The law also mandates the Local Chief Executives to establish at least one (1) trading post for organic inputs (and produce) in an area within their jurisdiction.

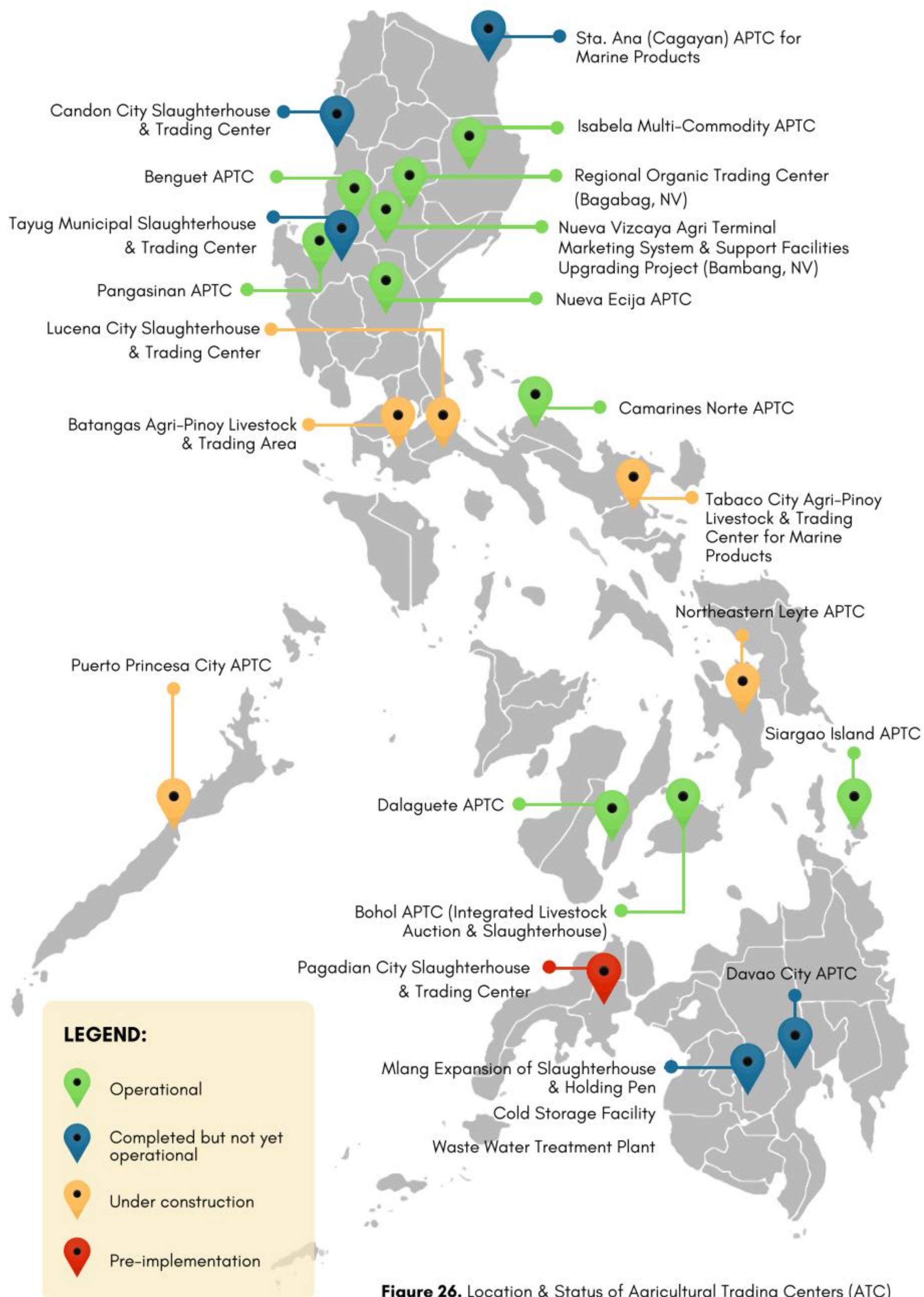


Figure 26. Location & Status of Agricultural Trading Centers (ATC)

PANGASINAN AGRI-PINOY TRADING CENTER (PAPTC)



Photo from: <https://explora.ph/attraction/734/pangasinan-agri-pinoy-trading-center>

The Urdaneta City Organic Rice, Corn, Vegetable Growers Association (UCORCVGA) is a farmers' organization in Pangasinan, with 257 farmer members planting eggplant, tomato, okra, ampalaya, sitao, patola and upo. At present, UCORCVGA occupies four (4) stalls in the Pangasinan Agri-Pinoy Trading Center (PAPTC). The opportunity to directly market farmers produce to wholesalers and/or viajeros resulted to the increase of vegetable production in Urdaneta City from 70 hectares to 92 hectares. This is equivalent to 31% of the city's vegetable production. Moreover, the income of UCORCVGA farmers also increased by 12%.

Further, through its effective marketing, UCORCVGA was chosen as a recipient of a Php 4.7 million-assistance from the PRDP for the acquisition of a delivery truck, farm inputs and additional trading capital.

As of December 2018, there are 84 Organic Trading Posts at various stages of implementation (see Figure 27.)

More than five (5) years after the program was introduced, the implementation and operation of eighty-four (84) OTPs distributed nationwide have been hampered by numerous constraints and challenges. In order to address implementation issues, various activities were conducted such as actual assessment and monitoring and the conduct of OTP Summit. This initiative enabled the OTP management and operators, LGU partners and personnel from the DA Regional Field Offices (RFOs) who are in-charge of monitoring and evaluation of the OTPs to interact, exchange ideas and share experiences both with successful and emerging OTPs.

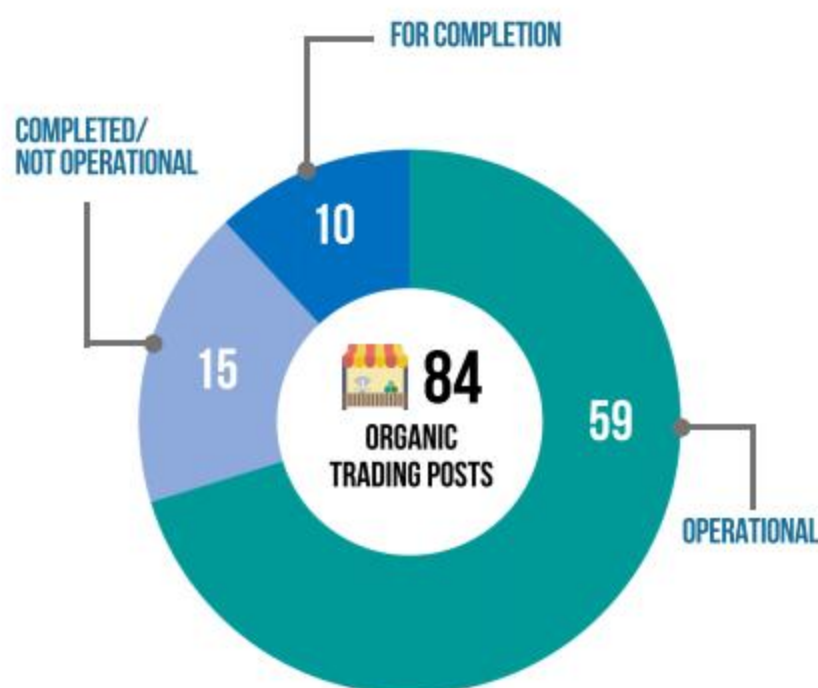


Figure 27. Status of Implementation of OTPs



Assessment of the Nueva Ecija APTC





Some of the identified factors that contribute to the successful operation of OTPs are: a) strategic location; b) strong management team; c) stable supply and demand of organic products; and d) strong support from the local government units.

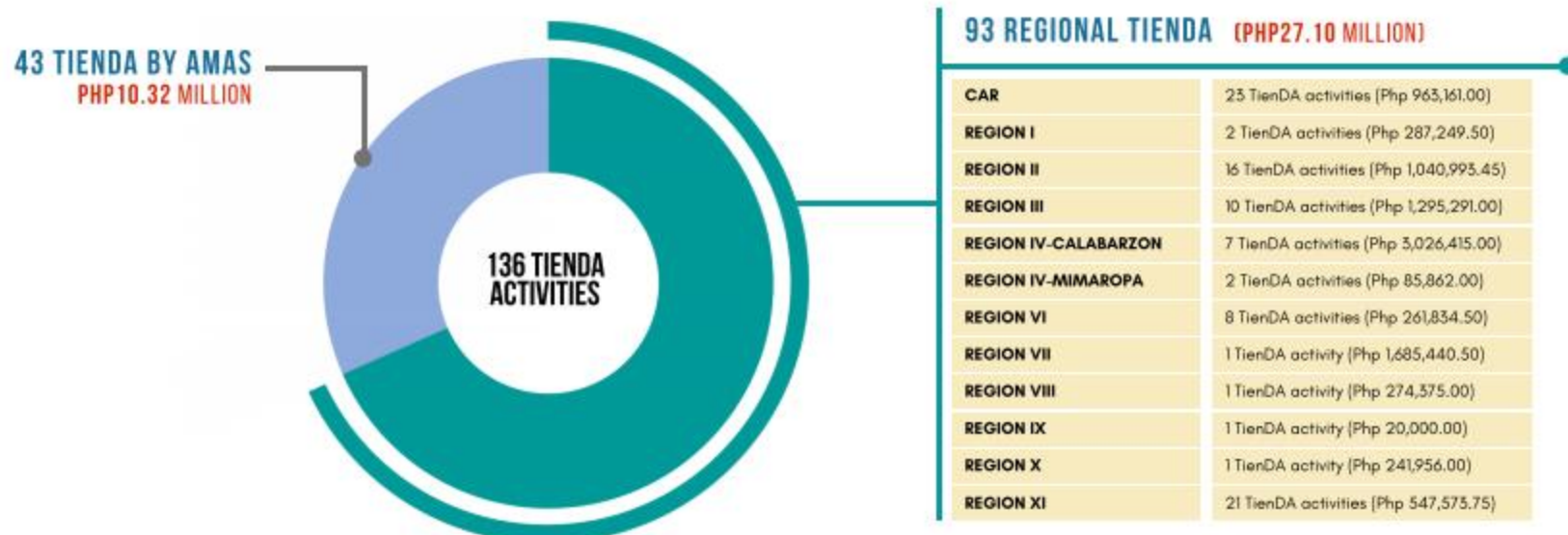
CONDUCT OF TIENDA ACTIVITIES

For FY 2018, DA conducted 136 TienDA events that generated a total estimated sales of Php37.4M and benefited 474 farmers, farmer groups, cooperatives and MSME exhibitors.



TienDA at Ayala Mall 30th

Figure 28. FY 2018 TienDA Events



Market linkage activities were likewise conducted during the TienDA events. During the TienDA Farmers and Fisherfolk Outlet in Metro Manila and selected regions, the Talabutab Multi-Purpose Cooperative from Nueva Ecija and and Bagumbuhay Multi-Purpose Cooperative from Region III were matched to Ayala Land Inc. As a result, a total of 15,000 bags of milled rice or Php 14.625M worth of orders were generated.



Sec. Piñol relaunches the Bohol Fish Market and TienDA at the Bohol Agricultural Promotion Center in Tagbilaran City

CONDUCT AND PARTICIPATION IN LOCAL AND INTERNATIONAL TRADE FAIRS, AND EXPORT PROMOTION ACTIVITIES

The DA-AMAS, through the Market Development Division (MDD) conducted, funded and participated in sixty-six (66) local and thirteen (13) international trade promotion/ market-related events. These generated a total estimated sale of Php 2.126B and benefited 1,722 exhibitors.

As an offshoot of DA-AMAS participation to SeoulFood Korea in May 2018, Sangkutsa Food Products Inc., a manufacturer of pickled mango was able to export products valued at Php 1.097M to Korea. These sales were consummated in October 2018, five (5) months after the event.

Figure 29. International Trade Promotion & Market-related Events, 2018



SEOUL FOOD, KINTEX, ILSAN CITY, SOUTH KOREA (MAY 1-4)

Booked sales: Php 8.2 million

Sales under negotiation: Php 596.1 million

fresh fruits, dried fruits and fruit-based juices and soda, VCO, coco sugar and other premium quality coconut products, pili nut products



SIAL CHINA, SHANGHAI NEW INTERNATIONAL EXHIBIT & EXPO CENTER (MAY 16-19)

Booked sales: Php 172.9 million

Sales under negotiation: Php 1.8 billion

fresh and processed fruits (dried, juices, puree, pickled), banana chips, pili nuts, coconut sugar and wine, healthy snack foods & condiments

CHINA-ASEAN EXPO (CAEXPO), NANNING, CHINA (SEPTEMBER 12-15)

Sales generated: Php836.3 million

fresh mango, banana Cavendish, banana chips, pili nuts, bottled seafood products, turmeric tea

CHINA INTERNATIONAL IMPORT EXPO, SHANGHAI, CHINA (NOVEMBER 5-10)

Booked sales: Php 259.3 million

fresh and frozen fruits, banana chips, dried durian, mango and guyabano, mango ketchup, mango sauce and concentrate

CHINA INTERNATIONAL FRUITS & VEGETABLES FAIR (NOVEMBER 16-18)

Booked sales: Php 231 million

Sales under negotiation: Php 3.6 billion

fresh and frozen fruits (lakatan, avocado, papaya, pineapple, mango, etc), banana chips, mango ketchup, sauce and concentrates



6TH WORLD FOOD & BEVERAGE GREAT EXPO, OSAKA JAPAN (OCTOBER 23-25)

Sales generated: Php 492.9 million

fresh & frozen fruits, moringa powder, banana chips, VCO soaps, fruit jams & jellies, pork cracklings, peanuts, meat sausages, canned tuna



SIAL MIDDLE EAST, ABU DHABI, UAE (DECEMBER 10-12)

Booked sales: Php 1.6 million

Sales under negotiation: Php 78.27 million

VCO, organic coconut sweeteners, pure cocoa tablea, malunggay powder, chips & snack food, civet coffee, bottled seafood specialties



12TH TERRA MADRE SALONE DEL GUSTO, TURIN ITALY (SEPTEMBER 20-24)

- Showcased a pop-up kitchen where cooking demonstration and tasting of Philippine traditional dishes and cocktail mixing using indigenous ingredients were featured
- Showcased of Philippines Ark of Taste agri products & ingredients (calamansi, batuan, adlai, honey, coffee and heirloom rice varieties from the Mountain Province)



12TH MANILA FOOD & BEVERAGE EXPO (MAFBEX), WORLD TRADE CENTER, MANILA (JUNE 13-17)

Booked sales: Php 1.07 million

Sales under negotiation: Php 3.32 million

22ND FOOD & DRINKS ASIA, WORLD TRADE CENTER, MANILA (SEPTEMBER 6-9)

Booked sales: Php 715,495

AGRILINK, WORLD TRADE CENTER, MANILA (OCTOBER 4-6)

Booked sales: Php 25.6 million

Actual sales: Php 3.35 million

MANILA FAME, WORLD TRADE CENTER, MANILA (OCTOBER 19-21)

Actual sales: Php 3.97 million

Sales under negotiation: Php 766,000

IFEX PHILIPPINES, WORLD TRADE CENTER, MANILA (MAY 25-27)

Sales: Php 33.97 million

Sales under negotiation: Php 165.3 million

ESTABLISHING GLOBAL LINKAGES FOR FILIPINO AGRI PRODUCTS



Representatives of Shanghai Qugao International Trading Co. (Global Alliance Hong Kong Co. Inc. – HK Office) headed by company President Mr. Melwyn Arrubio sought for the assistance of DA-AMAS to source virgin coconut oil (VCO) products for their China market. AMAS assisted Mr. Arrubio in setting up meetings with existing VCO suppliers in the DA-Agribusiness Development Center (ADC). After several weeks of meetings, Mr. Arrubio decided to source VCO and coconut cooking oil from Wellness International Corporation of the Peter Paul Phil. Corporation Group of Companies. After a background check conducted by our Agriculture Attache and consultation with the Philippine Consulate in Guangzhou, initial shipment of VCO and coconut cooking oil amounting to Php 1 M was made on December 2018. The products will be marketed in China under a private label.

Shanghai Qugao International Trading Co. also closed a deal with AISHA-FIL for the supply of banana chips under a private label. AISHA-FIL is a banana chips supplier based in Bacolod. The initial order will test the market acceptability of the chips as to taste and pricing of the product. The initial shipment worth Php 250,000.00 was made last December 2018.

CHAPTER

05

NATIONAL RICE PROGRAM



Due to the importance of rice in the Filipino diet, rice self-sufficiency, or producing an adequate volume of rice for local consumption has been the focus of the Philippine government. But as the country's rice policies open up to international trade, competitiveness plays a prominent role.

Rice competitiveness is having as good as or better quality of rice than other rice-producing countries at lower cost. It requires efficiency in production to attain the maximum yield using the least-cost combination of inputs. Self-sufficiency and competitiveness remain elusive since rice yield levels are below the maximum attainable.¹

Despite being the 8th largest rice producer in the world, the Philippines is not on the list of top rice yielders.² This disconnect only goes to show that we are not yet producing the maximum quantity of harvested rice per hectare compared to other rice-producing countries.

Many constraints influence farm yield levels in the Philippines. Yields remain low despite technological breakthroughs because of rice production issues such as emergence of biotypes, low technical efficiency, declining soil fertility, and lack of effective irrigation systems. Even socio-economic constraints such as limited management skills of

farmers, deteriorating terms of trade, and lack of appropriate and adequate infrastructure conspire to lower yields.³

To address these challenges, the Department of Agriculture- National Rice Program have continuously implemented interventions to ensure available, affordable, and accessible food at all times for Filipinos, and in attaining our goal of rice sufficiency through improvement of farmer's competitiveness, and enhancement of farmer's resiliency.

RICE MODEL FARM

The Rice Model Farm Project is an extension intervention companion to the High Yield Technology Adaptation for Hybrid Rice (HYTA-HR) Project of the Rice Industry Roadmap for Development (RIRD). This rice model farms showcase localized packages of high yield and profitable hybrid cultivation-harvesting technologies, techniques and systems.

As of December 31, 2018, the National Rice Program, in coordination with DA RFOs, was able to exceed their annual target of 2,535 and established 2,629 rice model farms nationwide.



BREEDING SUCCESS: THE HYBRID RICE STORY OF EDWIN ALWAG

Edwin Alwag, a rice farmer from Km.3 Baan, Butuan City, has been in farming for three decades.

Like many other farmers, he encountered a myriad of challenges in rice farming that includes pest and disease infestation, high cost of farm inputs, low yield and low income.

¹ Comparative Efficiency of Rice Farming in Asia and the Philippines published by the Philippine Rice Research Institute in 2017.

² Ibid.

³ Ibid.

These challenges never stopped him in producing rice. Instead, it encouraged him to attend training, farmers field school and other rice-related activities conducted by the Department of Agriculture-Caraga in partnership with the Local Government Unit of Butuan City.

"The briefings and training I attended made me realize that I can have a higher yield using hybrid rice compared to inbred rice," Alwag said.



Five years into hybrid rice farming, he admits that he is still searching for the variety that will give him higher yield.

Thankfully, DA-Caraga's Model Farms for Hybrid and Inbred Rice opened his eyes to the potential of hybrid and inbred rice varieties.

"I was surprised with the outcome because there is a big difference in the as compared to the previous varieties I tried. The results showed that I can attain higher yield by planting the appropriate variety in my area," he said.

Alwag harvested 113 bags or 7.23MT in 2016 (second cropping) using 9000-Syngenta and 98 bags or 6.17 MT in 2017 (first cropping) using SL-18H. In 2018, he harvested 149 bags or 9.4MT with TH-82 variety. Based on farm records, a 34.30% yield increase was achieved with the most recent variety he used.

"I applied the same cultural management practices in planting the three varieties of hybrid rice but one variety stood among others with a high yield and that was TH-82," Alwag said.

I am very thankful for DA's intervention because I can say that I already found the one that suits in my area," he explained.

In Caraga, a total of 455 individual rice farmers benefitted the model farm project. DA-Caraga Rice Program has continued to reach out to more farmers to avail the free intervention.

SOLAR POWER IRRIGATION SYSTEM (SPIS)

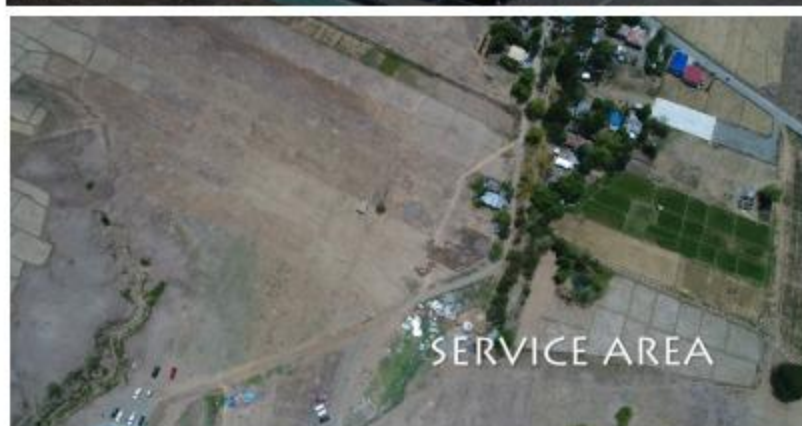
The SPIS is the flagship program of the DA, through the Bureau of Soils and Water Management (BSWM), under the Small-Scale Irrigation Project (SSIP). While BSWM, in close coordination with Bureau of Agriculture and Fisheries Engineering (BAFE), provides the over-all direction on the planning and development of SPIS, the Regional

Field Offices (RFOs) of DA undertake its implementation within their respective regions. Through full grant, all SPIS can be availed by qualified beneficiaries and proponents under the various programs of DA.

Under the National Rice Program, five (5) SPIS projects have been completed in Region III, Region IV-CALABARZON and Region XIII. Moreover, 89 SPIS projects are under construction/installation or still in the procurement stage.



Solar Power Irrigation System installed in Sawat, Camiling, Tarlac



Solar Power Irrigation System installed in Caridad Norte, Llanera, Nueva Ecija

FINANCIAL LITERACY TRAINING

Aside from enhancing the technical capabilities of rice farmers, the NRP also intends to enhance their financial literacy and credit worthiness and increase their knowledge of effectively managing finances.

The series of training conducted nationwide were designed to help farmers appreciate the significance of financial literacy to agri-enterprise development and activities; orient them on the agri-credit program of DA; make them fully understand the business cycle and character of successful agri-enterprises; and develop skills in financial recording, budgeting, and cash flow statement preparation.



SUPPORT TO RICE FARMING MECHANIZATION

In FY 2018, the NRP was able to distribute 1,241 units of farm production-related machinery and equipment, 807 units of postharvest machinery and equipment, and constructed 455 postharvest facilities that benefited 2,503 farmer groups, associations and cooperatives.

Table 1. Agricultural Machinery, Equipment & Facilities (AMEF) Distributed and Constructed

PRODUCTION-RELATED MACHINERY AND EQUIPMENT DISTRIBUTED

118

Four-Wheel Drive

373

Hand Tractor

122

Floating Tiller

7

Drum Seeder

16

Precision Seeder

15

Hauling Truck

43

Transplanter - Riding

410

Transplanter - Walk Behind

137

Seed spreader/fertilizer applicator

1,241

group beneficiaries

✓

✓

✓

POSTHARVEST MACHINERY AND EQUIPMENT DISTRIBUTED

807

group beneficiaries

✓

✓

✓

375

Combine Harvester

263

Thresher

165

Reaper

4

Rice Mill

POSTHARVEST FACILITIES CONSTRUCTED

17

Flash Dryer

6

Warehouse

8

Mobile Dryer (6T)

9

Flatbed Dryer (FBD)

207

Collapsible Dryer Case

146

Multi-purpose Drying Pavement

62

Recirculating Dryer w/ Biomass Furnace

455

group beneficiaries

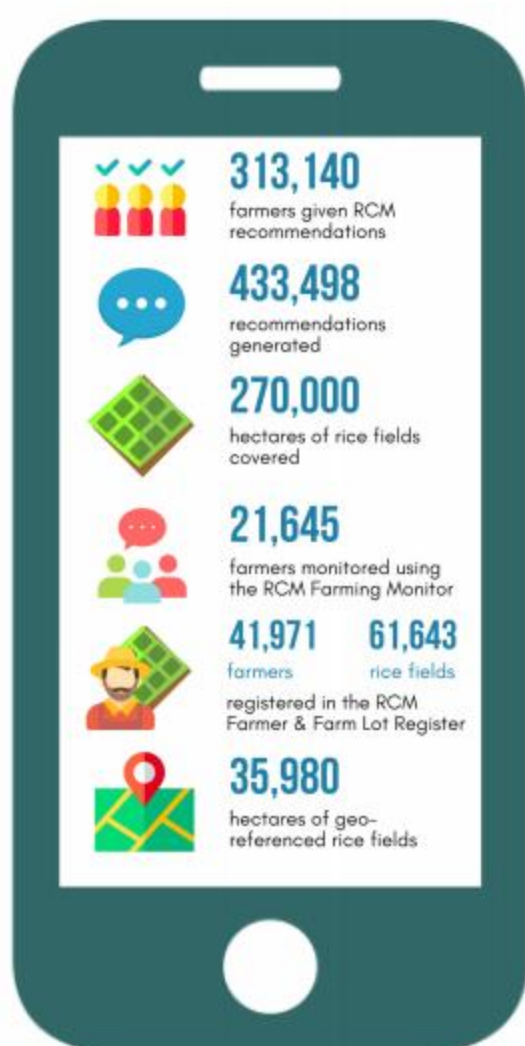
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RICE CROP MANAGER

The Rice Crop Manager (RCM) is a tool created as a collaboration project of DA-PhilRice and IRRI. This is a tool that provides personalized advice to farmers on crop and location-specific nutrient management. RCM recommendations are provided to farmers through SMS and printouts to improve and guide in the crop management. Contents of RCM recommendations, when followed by farmers, can help increase yields and income. For FY 2018, the following are the accomplishment highlights of the project:



Capacity Building

In order to enhance the implementation and usability of the RCM, various capacity building activities were conducted intended for various stakeholders of the project. To strengthen the research capacity of regional R&D partners as well as provide in-depth knowledge on the science behind RCM, a National Technical Updating Workshop was conducted. Moreover, the regional partners from R&D and PMED were capacitated to conduct in-house monitoring and evaluation of RCM including data analysis and reporting of results.

Further, focal persons from RFO Operations group and Regional Training Centers of ATI were capacitated to train local extension partners on the use of RCM Advisory Service. Lastly, an RCM User Experience Workshop was conducted to capture user feedbacks and suggestions that will be incorporated in the on-going development of offline RCM version.



Lucena farmers during the conduct of farmers' orientation and interview (RAS Training of Trainers).

Continuous Field Researches

Spearheaded by PhilRice and IRRI, and with the support of DA-BAR, field researches were continuously conducted to further improve and enhance the capability of RCM.

- **Completed Season 10 (Dec 2017-May 2018)**

265 RCM enhancement trials and 115 nutrient omission plot technique (NOPT) trials were established in 12 municipalities across 8 regions. NOPT trials for locations suspected with high soil fertility were included to refine RCM adjustments for high soil fertility areas.

- **Completed Season 11 (Jun-Nov 2018)**

120 RCM enhancement trials and 120 nutrient omission plot technique (NOPT) trials are being established in 11 municipalities across 7 regions.

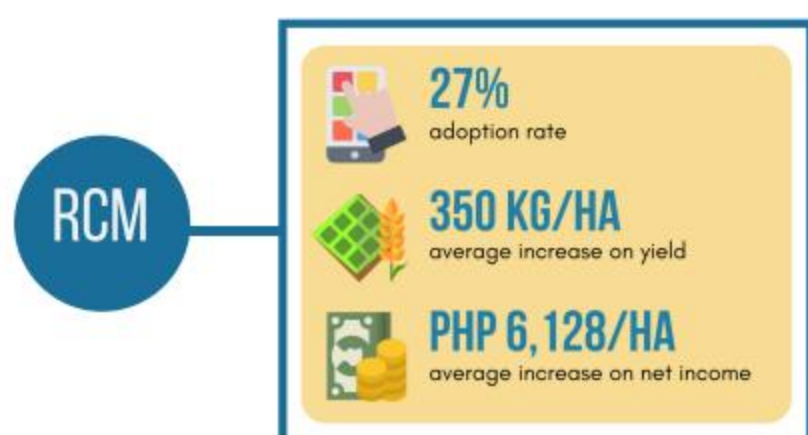
Data from researcher-managed RCM evaluation trials have shown that farmers with typical low yields have higher yield gains and more added net benefit from following RCM.



With the support of R&D partners from DA-RFOs, the testing of the expanded RCM Advisory Service has been completed through Precision Rice Farming (PRF) researches conducted by DA-RFOs.

Monitoring, Evaluation and Learning

The collaboration between DA-Planning and Monitoring Service (PMS), DA-RFOs and IRRI for the conduct of a national monitoring, evaluation and learning (MEL) during the 3rd & 4th quarter of 2018 covering the dry season 2017-2018 produced the following results:



RCM Platform Upgrading and Enhancements

Table 2. Summary of RCM Enhancements

RCM PLATFORM & VERSION	ENHANCEMENT
RCM Farmer ID Maker Version 1.1 (August 2018)	allow revisions of RCM contact persons
RCM Farmer and Farm Lot Registration Version 1.1 (November 2018)	capacity to view GPS-measured field boundaries on satellite maps
RCM Farming Monitor Version 2.0 (August 2018)	expanded survey tool for monitoring, evaluation and learning
RCM Version 2.22 (December 2018)	capability to link user registration data to RCM use



LGU staff measures farmer's field using GPS after registration at Brgy. Bulbulala, La Paz, Abra

PEST AND DISEASES RISK IDENTIFICATION AND MANAGEMENT (PRIME)

PRIME is a technology designed to identify the risk factors of pest outbreaks, map potential outbreaks risks, and formulate integrated pest management (IPM) strategies using field-based pest surveillance, information derived from satellite and drone images, and risk modeling. The project focuses on five (5) pests/diseases which cause major crop losses in the Philippines, such as blast, bacterial blight (BLB), rice tungro/green leafhopper, brown planthopper, and rodents. The project also intends to enhance the capacity of project partners on remote sensing, and pest risk mapping and analysis. Ultimately, PRIME aims to reduce yield losses due to pests through better management and targeting of risk areas, thereby increasing farmers' income and making more rice available for consumption.

PRIME has seven (7) work packages (WP) including project coordination, user requirements, capacity building, and research and development elements focused on field-based observations and experiments, remote-sensing-derived crop parameters, risk analysis of factors for pest and disease outbreaks, and delivery of pest risk intelligence that respond to user requirements.



WP 1: PROJECT MANAGEMENT AND COORDINATION

- Creation of the PRIME project management team
- Maintenance of a cloud-based project management system that serves as a document sharing platform initiated by the project coordinators to be able to share & maintain common project folders and documents



WP 2: USER REQUIREMENTS AND EVALUATION

A Needs Assessment Workshop was conducted at the Gladiola Center, Benguet State University, La Trinidad, Benguet with 92 participants from IRRI, PhilRice, BPI and the DA-RFOs.

Through the activity, the project stakeholders were able to:

- Identify the current technical and functional capacity and available data of the participating organizations;
- Determine the technical and functional needs and examine its nature, causes, and consequences;
- Identify the objectives of each partner institution for the project based on their priority needs and current capacity; and
- Set priorities for future actions.

Lessons learned from past and current initiatives were also presented during the Reflection Workshop.



WP 3: FIELD STUDIES & EXPERIMENTS ON RISK FACTORS FOR PEST OUTBREAKS

- Ongoing finalization of the written procedures for field experiments, and PRISM crop health data collection
- Production of Antisera for RTBV and RTSV
- Conducted experiments and field surveys to identify risk factors for blast, BLB, tungro/GLH, BPH and rat outbreaks:
 1. Effect of weather & host plant resistance on the risk of bacterial blight, leaf blast and neck blast (Probe experiment)
 2. Surveillance of bacterial blight and blast pathogens and resistance genes
 3. Effect of stagnant flooding on the population dynamics of brown plant hopper and its major natural enemies; and
 4. Evaluation of tools for monitoring rat abundance
- Conducted field surveys at the experiment sites and PRISM Component B sites: Rice pest surveillance activity for PRIME started in July 2018. Data validation & its analytics are currently being developed by the IT personnel from IRRI & BPI.
- Profiles of major pests of rice (rats, BLB, blast, yellow stemborer, & tungro) are currently being developed using BPI's pest database from a 23-year data (1991 to 2018).



WP 4: REMOTE-SENSING-BASED MAP CROPPING & MONITORING

- Acquisition, pre-processing, and interpretation of remotely sensed data using satellites and UAV/drone
- A remotely piloted aircraft (drone) was employed to assess the extent of the damage caused by rodents and diseases reported in Barangay Minatula in Sta. Rosa, Nueva Ecija. The other objective is to create a protocol on how to conduct the assessment focusing on effective elevation, photo overlap, and camera sensor.
- The drone images were uploaded to the cloud service of DroneDeploy to create an Orthomosaic and Vegetation index (VI). Overall, the upload process took about 15 to 20 minutes using the dedicated internet line at PhilRice Central Experiment Station (CES). Processing took about 30–45 minutes after the last mission photo was uploaded.



WP 5: RISK FACTOR ANALYSIS FOR PEST & DISEASE OUTBREAKS

Collection of weather, crop management and other data required to characterize current and future scenarios



WP 6: PEST AND DISEASE RISK INTELLIGENCE

To be reported on the projects third year of implementation, the objective of this work package is to come up with pre-season bulletins on pest risk and mitigation strategies and within-season bulletins on pest disease risk mitigation strategies as needed



WP 7: CAPACITY BUILDING

Training of project partners and project staff on:

- protocols for data collection from field studies or experiments and validation of risk maps
- crop mapping and monitoring using remote sensing
- pest risk analysis, mapping and mitigation

Training on the protocol for the three (3) experiments on the effects of weather variables, and pathogen & resistance gene surveillance attended by 14 partners from six regions (DA-RFO IV-A, V, VI, VII, VIII and XIII)

National Training of Trainers for PRIME Crop Health Assessment was conducted last March 12-15, 2018 at IRRI Los Baños, Laguna

Training on Google Earth Engine (GEE) was conducted on June 27-29, 2018 attended by 12 participants from PhilRice and IRRI.

Training course on PRIME Protocol for Crop Monitoring and Crop Health Assessment Using Remotely-Piloted Aircraft (RPA) was held on August 7-9, 2018 at IRRI, Los Baños, Laguna attended by 31 training participants: 16 from DA RFOs, three (3) from DA-Central, three (3) from BPI, four (4) from PhilRice and five (5) from IRRI

ACCELERATING THE DEVELOPMENT AND ADOPTION OF NEXT-GENERATION (NEXTGEN) RICE VARIETIES FOR THE MAJOR ECOSYSTEMS IN THE PHILIPPINES

NextGen is a project implemented by DA together with IRRI, PhilRice, BAR, BPI and UP Los Baños that features two (2) major components, namely: a) fast-tracking the development of nextgen high-yielding and climate change-resilient rice varieties, and b) accelerating the adoption of high-yielding rice varieties through a new multi-environment testing (MET) strategy and production of high-quality seeds. This R&D initiative supports the Philippine Rice Roadmap which envisions to improve competitiveness by increasing average yield within ecological limits, and enhance resiliency by increasing the adaptability of rice farming system to disasters and climate risks.

COMPONENT 1:

Fast-Tracking the Development of Next-Generation High-Yielding and Climate Change-Resilient Rice Varieties

1. Pre-breeding lines for irrigated lowland and adverse environments
 - Shuttle breeding between IRRI and PhilRice CES and branch station
2. Pre-breeding lines for irrigated lowland and adverse environments
 - Marker validation and marker-assisted selection to accelerate breeding of inbred and hybrid parent lines for tolerance to major biotic and abiotic stresses

- Heterotic experimental hybrids
- Genetic diversity of *Xanthomonas oryzae* pv. *oryzae* in selected rice growing areas in the Philippines

FIELD PERFORMANCE OF BREEDING LINES UNDER SUBMERGENCE STRESS (PHILRICE – CES, 2018 DS)



Stress Imposition
(Jan. 24, 2018)



7 Days after
Desubmergence
(Feb. 2, 2018)



14 Days after
Desubmergence
(Feb. 9, 2018)



Flowering Stage
(Apr. 5, 2018)

COMPONENT 2:

Accelerating the Adoption of High-Yielding Rice Varieties through a New Multi-environment Testing (MET) Strategy and Production of High-Quality Seeds

1. MET system for irrigated lowland rice and adaptability test of newly released varieties
 - Four (4) MET 1 sites with 244 entries established in Muñoz (Nueva Ecija), San Mateo (Isabela), RTR (Agusan Del Norte) and Midsayap (North Cotabato); and four (4) MET 2 sites with 104 entries established in Muñoz (Nueva Ecija), San Mateo (Isabela), RTR (Agusan Del Norte) and Midsayap (North Cotabato)

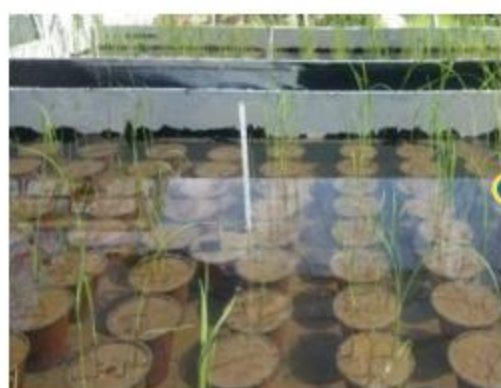
PHENOTYPIC RESPONSE OF BC2F4 LINES AND ITS PARENTALS, NSIC RC 160 AND CIHERANG (SUB1+AG1) TO ANAEROBIC GERMINATION AND SUBMERGENCE SCREENING (2018WS, PHILRICE-CES)



Seeding



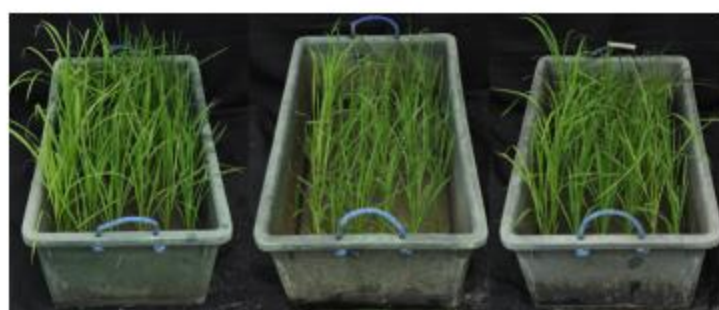
5cm water above soil surface



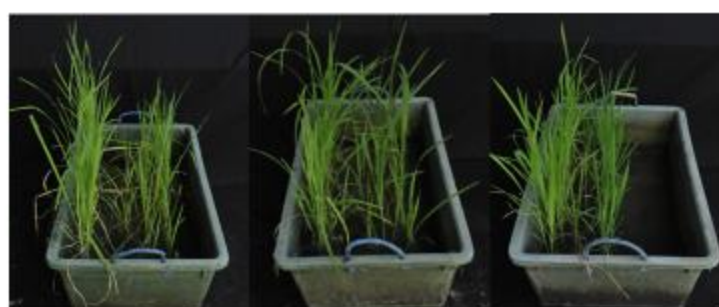
14 Days



21 Days



21 DAYS BEFORE SUBMERGENCE



21 DAYS AFTER SUBMERGENCE

- Participatory Varietal Selection (PVS): A total of 503 seed kits (235 DS, 268 WS) of new varieties dispatched in 16 regions.

2. High-quality seed production for new climate-resilient rice varieties

- Breeder Seed Production: 30-340 kg/variety of breeder seeds of 40 newly released and popular rice varieties produced.
- Foundation Seed Production: 20-210 kg/variety of foundation seeds of 49 released public inbred varieties produced for CES, including 8 branches & satellite stations and 16 RFOs.

3. Training, capacity enhancement and linking NextGen with RCM, PRISM, Seed Network and PhilRice DevCom

- Training on seed production, data analysis, seed health and molecular markers attended: 1 PhilRice staff trained on Programming on July 9-13, 2018.
- Enhanced capability of project implementers through retooling and workshops: 118 participants in Regions VI (26), XI (48), XII (20) and CAR (24) were retooled by the NextGen team on crop establishment, data gathering, fertilizer computation/application, actual field layouting, pest & disease assessment, planting plan preparation and data analysis using STAR.
- NextGen results for MET and PVS with the specific locations will be shared with RCM: NextGen varieties with their recommendation domains and characteristics were integrated to the rice variety selector (RVS) of RCM.
- NextGen results for MET and PVS with the specific locations will be shared with PRISM: NextGen varieties and their recommendation domains were integrated with the annual production mapping of PRISM and working-on collaborating with PRIME.
- Information of NextGen's BPI certified materials and amount of production will be reported to Philippine Rice Seed Network: NextGen varieties including its recommendation domains and data on field performances under the PVS trials will be integrated with PhilRice-BDD and upload was targeted on April 2019.
- Information dissemination of NextGen results: Multi-media information dissemination executed for access (i.e. print and web uploads)

CHAPTER

06

NATIONAL CORN PROGRAM



Corn is one of the most important crops in the Philippines considering the crops versatility. White corn is considered as one of the staple food in the country and can be processed into high value products, such as corn grits, cornstarch, corn syrups, corn oil, gluten and snack foods. Yellow corn is used as feed ingredient for livestock and poultry.

Filipino farm households depend on corn as a major source of livelihood. In addition, transport services, traders, processors and agricultural input suppliers directly benefit from corn production, processing, marketing, and distribution.

In view of the economic importance of corn and the challenges faced by the sector, DA developed the National Corn Program. The program aims to address the inefficiencies in the domestic corn sector, and to increase production of quality corn and cassava for human consumption, feeds and industrial uses. It also aims to empower the corn farmers and support various stakeholders to be cost-efficient, profitable, sustainable and resilient.

ESTABLISHMENT OF CORN MODEL FARMS

Production and marketing inefficiencies in the local corn industry can be attributed to low adoption of recommended production technologies, high postharvest losses and high transport and marketing costs due to inadequate infrastructure. To help address inefficiencies in production and marketing, the corn model farm was implemented. It aims to showcase the latest technologies and modern farm practices to promote adoption among domestic corn farmers, and in turn, improve productivity.

01

Increase productivity (yield) of at least 5 metric tons per hectare (MT/ha) for yellow corn and at least 3 MT/ha for white corn

Reduce production costs through farm mechanization

02

03

Produce quality yellow and white corn grains

Figure 20. Corn Model Farms Objectives

Through the provision of farm inputs, farm machineries and equipment, trainings, and marketing support, the implementation of the corn model farm aims to achieve the initiative's three-fold objectives.

As of December 2018, 18 corn model farms were established nationwide. Below are some of the results of selected model farms established in CALABARZON and Davao Region:

San Francisco Corn Producers Association San Francisco, Quezon

The San Francisco Corn Producers Association in Brgy. Sto. Niño, San Francisco, Quezon has 56 members with a total production area of 541.49 hectares. They practice multicropping system on two cropping periods. Areas are either rainfed or through open sources. The Department of Agriculture CALABARZON has provided the group with seeds (IPB Var 6), capacity building trainings, fertilizers, machineries, facilities and irrigation support, pest and disease control inputs, and marketing support (market matching with Talisay MPC) to facilitate the performance of the model farm.

After the interventions were provided, the 50 ha model farm yielded the following improvements:

- **Yield:** 3.5 MT/ha compared to the 1.12 MT/ha without interventions
- **Income:** PhP 45,900.00/ha (190% return of investment) compared to an income of PhP 13,140.00/ha (141% return of investment) before interventions were provided.



Babag Farmers' Association Davao Region

The Babag Farmers Association composed of 50 corn farmers availed of the Corn Model Farm Project. Through the DA-RFO XI, the farmers were provided with inputs such as seeds (Bioseed B990912), fertilizers, and pest and disease control materials as well as technical support through SSNM Training, Farmer's Field School, Aflatoxin Training, SOA, and Organization Management and Financial Management Training.

With a planting distance of 22cmX60cm (SSNM recommendation), 1 seed per hill (75,757 hills/ha), the following improvements in their harvest from November to December 2018 were observed:

- **Yield:** 6-9 MT/ha compared to an average yield of 5-7 MT/ha from the previous cropping
- **Income:** Php 35, 000.00 net income compared to an average of Php 24,770.00 from the previous cropping before the interventions were provided

The association consolidated the buying of corn harvest from the recipients with a buying price of Php 15.00 per kg as grains. Corn traders at the nearby municipality bought the grains from the association with a buying price of Php15.50 per kg. As of today, 100% of the farmers who availed of the project have already paid to the association the total equivalent amount of the interventions provided to them by DA. The association plans to expand the corn model farm from 50 has. to 65- 70 has. in the next cropping season.

expected to ease up pressures on rice imports as it aims to help local corn farmers revitalize the country's corn industry. Relative to this, DA RFOs launched the following initiatives to promote and market the staple food alternative:

- Identified Nutridense Food Manufacturing Corp. in Sta. Barbara, Pangasinan as a potential processor of an iron-fortified rice-corn blend
- In Region II, the harvest of farmers on the white corn model farm was bought by DA- CVRC MPC and processed into rice-corn blend. A total of 500 kg was delivered to the Agribusiness Development Center in Quezon City.
- In Occidental Mindoro, the Local Government Unit of Abra de Ilog was tapped for the launching of a feeding program for children using corn grits. The activity, conducted in coordination with the Municipal Social Welfare Development and DepEd, aims to create awareness, improve nutrition, enhance school performance and provide socialization opportunities. These activities will also be implemented to other municipalities and provinces of MIMAROPA.
- In line with the Rice Corn Blend Program, a five-day training for the White Corn Production and Processing of White Corn Grits was conducted in the SOCCSKSARGEN Region. Experts from Department of Trade and Industry RFO XII (DTI), Agricultural Training Institute RFO XII (ATI), PhilMech, Bureau of Agricultural and Fishery Sector (BAFS), Nueva Ecija, and Regional Crop Protection Centre RFO XII (RCPC) served as resource persons. Actual demonstration for the overall flow of Processing of Corn Grits was also conducted.

PROMOTION OF RICE-CORN BLEND/CORN GRITS

The DA launched the Rice-Corn Blend Program in line with the government's objectives to make food staples adequately available and accessible at all times. The program aims to provide a healthier option for the Filipino consumers. The Rice-Corn Blend is seen to provide new market segment and demand primarily for the health conscious. It is also

MAINSTREAMING OF SUSTAINABLE FARMING TECHNOLOGIES

Sustainable Corn Production in Sloping Areas (SCoPSA) Technology

SCoPSA was initiated through the establishment of techno demo farms, which showed encouraging results in terms of reducing erosion and increasing productivity. Although still on a limited scale, it is

now adopted as an effective soil conservation technology in sloping areas planted to corn. The DA, through the National Corn Program, is already working for the mainstreaming of SCoPSA to widen its scope and reach more farmers.

As a strategy, the Program is establishing community-based sustainable corn production and technology demonstration farms on soil erosion control and soil fertility management with the LGUs as main partners.

In 2018, five (5) additional community-based sustainable corn production model farms were established in Cauayan City, Isabela; Cuartero, Capiz; Josefina, Zamboanga del Sur; Cagayan de Oro City, Misamis Oriental and Sultan Naga Dimaporo, Lanao del Norte. Model farms were provided with technical assistance and production inputs. After establishment, all techno-demo farms were turned-over to partner agencies or institutions for maintenance. As of December 31, 2018, a total of 65 SCoPSA sites were established nationwide. Sixty (60) of the sites are SCoPSA regional sites, while five (5) sites were funded and established by BSWM.

Solar-Powered Irrigation System

Under the National Corn Program, the implementation of forty-three (43) units of SPIS are already underway. All 43 units are expected to be operational by May 2019.

DEVELOPMENT OF TWO (2) REGISTERED CORN VARIETIES

Through the efforts of the Cagayan Valley Research Center under DA-RFO II, two (2) new approved NSIC Registered Varieties were released in 2018:

CVRC Cn 15 (NSIC 2018 Cn 314) - OPV Yellow

- Recommendation domain- Luzon
- Average Yield - 5.32 MT/ha based from NCT Trials Nationwide
- High shelling recovery
- Moderately resistant to lodging
- Drought tolerant

CVRC Glut No. 12 (NSIC 2018 Cn 316) - OPV White

- Recommendation domain- Luzon, Mindanao
- Average Yield- 5.64 MT/ha based from NCT Trials Nationwide
- High shelling recovery
- Moderately resistant to lodging
- Good eating quality potential for green corn business
- Soft pericarp

CONTINUOUS SUPPORT TO CORN AND CASSAVA FARMING MECHANIZATION

As of December 31, 2018, the National Corn Program (NCP) was able to provide farm machineries and postharvest equipment and facilities to about 1,183 farmer groups. Interventions provided include 218 units of farm production-related machinery and equipment that includes four-wheel drive tractor, two-row corn planter, pneumatic four-row corn planter, corn picker, combine harvester, cassava digger and hauling truck. The interventions also include 965 units of postharvest machinery and equipment such as corn and hammer mills, mobile grain dryer, corn sheller, cassava grater, cassava pulverizer, cassava chipper, cassava granulator, generator set for village type corn dryers, multi-crop drying pavement and seed storage facilities.



Corn Planter



Recirculating Grain Dryer



Cassava Granulator

ESTABLISHMENT OF CASSAVA FLOUR PROCESSING FACILITY

This project which was initially proposed in 2017 aims to process cassava produced from the 3,000- hectare farm in San Mariano, Isabela and nearby municipalities. The feasibility study to ascertain the project's technical and financial viability was already completed. The construction of the warehouse as well as the procurement of the processing facility are ongoing. The project is expected to be completed and operational in May 2019.



After working for a few years in a factory in Manila, Angelita Cerillo returned to Tigaon, Camarines Sur to pursue farming as a livelihood. Without any capital to start with, only the support of her mother, she leased a portion of land and planted it with corn, cassava, banana, camote, peanuts and rice. In 1998, she planted Open Pollinated Variety and later shifted to hybrid. More than ten years later, her farm averages production of 11 tons per hectare.

This, she owes to careful application of innovative production technologies from seed selection, land preparation, planting, pest and diseases management, harvesting to postharvest practices she learned and acquired from various assistance and interventions provided by DA.

In 2017, Cerillo's farm obtained a net income of Php1,288,092. From corn, she earned a net income of P932,986; from rice, P120,700; from coconut P37,061 and from banana, P33,063. To attain maximum farm productivity and profitability, Cerillo also engages in swine production where she gained an additional income of P103,475 in 2017. She also raises four carabaos, seven cows, 25 heads of chicken and 15 ducks. With all her earnings, she was able to buy a one hectare rice field and invest in postharvest equipment including a unit of corn sheller, two units of rice threshers, one unit of hand tractor and 500 square meter solar dryer. She also acquired several properties—a car, van, elf truck and motorcycle. Moreover, Cerillo's five-hectare corn farm is stamped with safety, sanitation and genuine freshness with its Good Agricultural Practices (GAP) Certification from the Bureau of Agricultural and Fisheries Products Standards (BAFPS) since May 2016.



An innovator and adapter of agricultural technology, Cerillo's area serves as a venue for technology demonstrations and a model farm for the Department of Agriculture in Bicol's Site Specific Nutrient Management (SSNM) research. A strong example of a profitable and productive agricultural venture, private companies like Monsanto Pioneer and Syngenta selected the Cerillo's farm for their field trials showcasing several combinations of integrated farming system technology.

After 27 years of hardwork, perseverance and wise financial management, Cerillo is now one of the largest corn producers in Camarines Sur and has given back to her community by providing employment opportunities to 15 regular employees and 30 on-call laborers.

As such, she was conferred the Gawad Saka Award for Corn Production in 2018.



An advocate of rural women empowerment, Cerillo is the President of the Ilaw Women's Organization of Libod where she spearheads trainings on sewing, baking, mushroom production and other livelihood activities. She believes that rural women, especially mothers should be given equal opportunities to contribute to their family and community's progress. Blessed with two children and three grandchildren, her income from corn farming also enables her to send them to reputable schools and build their dream house in Tigaon.

Angelita is also an active member of the Rural Improvement Club, MAFC and the Libod Tribal Community or Agta-Tabangnon Tribe. Currently, she serves as business manager of the Tigaon Corn Cluster Association, where she shares her knowledge, ideas and experiences using new technologies in corn production with fellow corn farmers.

CHAPTER

07

HIGH VALUE CROPS DEVELOPMENT PROGRAM



COMMODITY PRIORITIZATION

The DA-High Value Crops Development Program (HVCDP), in close coordination to other DA agencies and relevant stakeholders, have successfully organized priority commodity summits and congresses to address erstwhile issues and challenges, and simultaneously strengthen industry collaboration and performance.

To highlight, a total of three (3) Garlic Summits were held in succession in three (3) different locations. A Mango Congress in the mango capital of the Philippines, Guimaras Island, became the culminating event of a series of six (6) Mango Congresses. Two (2) White Potato Summits were organized and served as a venue for the DA and white potato stakeholders to address issues and concerns of the industry, and map out needed interventions in the medium term. On a collaborative effort with the DTI, the annual Coffee Conference was held in Baguio City.

In light of these initiatives, focus on commodity prioritization and institutional development is manifested in the concerted efforts to craft and implement commodity roadmaps. These roadmaps will carry out a more holistic approach to industry growth while fulfilling the program's role in delivering traditional production-related interventions in every region. The HVCDP also serves as a unifying body that coordinates industry stakeholders in determining and rolling out the development track for various high value crops.



Garlic

Considered as one of the most popular and demanded spices in the Philippines because of its sharp taste and aroma, garlic is widely grown in Ilocos, Cagayan Valley, Central Luzon, CALABARZON, MIMAROPA, Western Visayas, Eastern Visayas and Cordillera Administrative Region.

In 2017, the Philippines has only produced 7,751 metric tons of garlic. Considering that the annual demand for local consumption of garlic in the Philippines is 130,158 metric tons/year, there is a

gap of more than 122,000 metric tons, hence, the need to import garlic from other countries.

Over the years, garlic exhibited a steady decline in production at an annual rate of 4% due to the following factors affecting the industry: (a) crop shifting by farmers due to lower garlic prices; (b) stiff competition with cheaper imported garlic; (c) lack of improvement in the yield of most commonly used varieties; (d) increasing input costs; and (e) adverse weather conditions.

Conduct of Garlic Summits

In view of the Secretary's commitment to increase garlic production in the country and strengthen the Philippine garlic industry, DA - RFOs I, II, and MIMAROPA, conducted a series of Garlic Summits.

The Garlic Summits highlighted the efforts of the Department to gather garlic farmers and stakeholders from top garlic-producing regions to discuss and address the issues and concerns of the industry. The Summit also served as a venue for the crafting of the five (5)-year roadmap to fully develop the Philippine Garlic Industry.

- *1st Garlic Summit at Ilocos Norte Centennial Arena, Laoag City*

A total of 1,005 participants composed of 886 local farmers from the provinces of La Union, Ilocos Sur and Ilocos Norte, and 119 government officials from different regions, municipalities and concerned agencies were present.



- *2nd Garlic Summit in Lubang Island, Mindoro*

The 2nd Garlic Summit / MIMAROPA Garlic Summit was conducted in Lubang Island, Occidental Mindoro on April 24-25, 2018. Garlic farmers and

stakeholders coming from the different garlic-producing Provinces of MIMAROPA region gathered to refresh and enhance their knowledge on garlic production. Experts delivered comprehensive presentations which included topics such as production technologies, pest and disease management, capacity-building trainings, credit programs, and crop insurance.



• 3rd Garlic Summit in Basco, Batanes

For this leg, the Office of the Undersecretary for High Value Crops and Rural Credit was joined by Secretary Emmanuel Piñol, Local Government Officials, DA - Regional Executive Directors, HVCDP Focal Persons and Ivatan Garlic Farmers. Both Sec. Piñol and Usec. Laviña encouraged the local farmers to expand their garlic production areas while DA - RFOs were tasked to increase their garlic production in their respective regions and contribute towards achieving garlic sufficiency target of 56% by 2023.



Philippine Garlic Industry Roadmap

The Philippine Garlic Industry Roadmap aims to:

- Produce sufficient supply of good quality garlic at affordable prices;
- Enable local producers to improve their productivity and be competitive with cheaper imports; and

- Develop and promote a local labor-intensive garlic processing industry based on imported raw materials for re-export of high value processed products.

The roadmap is focused on attaining a sufficiency level of 56% by 2023. In order to reach this, the main interventions are gradual increase in the area of expansion for garlic production. This can be achieved through the provision of continuous support from the government and commitment of involved industry stakeholders. Moreover, the problem on low yield will also be addressed through the provision of good planting materials and improvement of production system.



Conduct of Onion Summit

To increase onion production in the country and to strengthen the Philippine onion industry, a Luzon Onion Summit was conducted at the Philippine Carabao Center, Nueva Ecija last November 14, 2018.



The Onion Summit aimed to gather onion farmers and stakeholders to address the prevalent issues of the onion industry in the Philippines, specifically those concerning production. It also aims to set a 5-Year Road Map to fully develop the Philippine Onion Industry.

One of the highlights of the Summit is the presentation of the proposed Onion Production Development Plan crafted by the Onion Technical Working Group which was created pursuant to SO No. 1017, Series of 2018. Participants composed of representatives from the government sector and onion stakeholders convened to review and finalize the proposed development plan.

Philippine Onion Industry Roadmap

The Onion Summit also served as an avenue for the crafting of the Philippine Onion Industry Roadmap 2019-2023 – a five (5)-year development plan for the onion industry of the Philippines.

The onion roadmap aims to attain 100% onion sufficiency level by 2023. Increase in production is necessary thru a parallel increase in area of production and yield. To achieve this target, the following strategic interventions must be done:

1. Increase production and access to quality planting materials:
 - Provision of quality onion seeds for area expansion
 - Application of organic matter to nutrient-depleted soil
 - Intensify pest and disease eradication techniques by the RCPC which include bio-control measures (e.g. earwig production and distribution)
2. Improve farm efficiency and productivity:
 - Provision of quality onion seeds for area expansion
 - Application of organic matter to nutrient-depleted soil
 - Intensify pest and disease eradication techniques by the RCPC which include bio-control measures (e.g. earwig production and distribution)



Coffee

3rd Philippine Coffee Conference

The DA and the DTI, in partnership with the Adhoc Philippine Coffee Council, conducted the 3rd Philippine Coffee Conference on March 20-21, 2018 in Baguio City.

A total of 700 coffee stakeholders were present in the event including top government officials.

The program included the presentation of the Industry Report on the 1st year implementation of the Philippine Coffee Industry Roadmap as well as sharing and transfer of relevant knowledge and trends in the industry.



The event also showcased the improved quality of Philippine coffee. Special mention was made to those who garnered top spots in the Philippine Quality Competition. Prior to the conduct of the Philippine Coffee Conference, several Strategic Planning were held to review and enhance the draft 2018 Regional Work and Financial Plans of the coffee clusters.



Mango

Philippine Mango Industry Roadmap

The 5-Year mango Industry Roadmap aims to increase production by 3% every year, same with the expansion area and the per capita consumption. It also tackles the main problems experienced in the industry such as low productivity, pest and disease, lack of capital sources, and post-harvest losses.

To solve this problem, government bureaus and agencies such as BPI, DA, DOST, DTI and SUCs must work harmoniously together to revive the glory of the Philippine mango.



Addressing Cecid fly infestation

A Focus Group Discussion (FGD) was held last October 10-11, 2018 in Ilocos Norte to address farmers' concern about the infestation of Cecid fly in their mango farms.



Around fifty (50) participants, mostly mango growers and municipal agricultural coordinators from different municipalities in Ilocos Norte, participated in the activity. Dr. Celia Medina, entomologist from UP Los Baños and Mr. Yondre Yonder, Center Chief of BPI - Guimaras (known as National Mango Research Development Center), served as resource persons during the activity.



White Potato

Conduct of White Potato Summits

As part of DA's commitment to support and strengthen the Philippine White Potato Industry, a series of White Potato Summits were conducted.

The said summits were held to facilitate discussion between the DA and white potato stakeholders on how to address the issues and concerns of the industry as well as to set a 5-year roadmap to fully develop the Philippine white potato industry.

• 1st White Potato Summit in Baguio City

The Luzon Potato Summit was conducted last April 18, 2018 in Baguio City to initiate the crafting of the Potato Industry Development Plan. A total of 256 participants attended the activity. Of which, 166 are potato farmers from ten (10) municipalities in Benguet, Region II and Region III.



The Department's support and interventions for the white potato industry were presented. Issues, concerns and possible actions to be taken for the development of the industry were also discussed. Actual demo and hands-on activities on potato production were likewise conducted on the 2nd day of the summit.

- *2nd White Potato Summit in Malaybalay City, Bukidnon*

To maintain the momentum and allow more stakeholders to participate in the discussion of the issues and concerns of the Philippine White Potato Industry and the crafting of the 5-year roadmap, the 2nd White Potato Summit was conducted at the Northern Mindanao Agricultural Crops and Livestock Research Complex (NMACLRC) in Dalwangan, Malaybalay City, Bukidnon last June 6-7, 2018.

The Mindanao Potato Summit was participated by 227 potato farmers from Regions X, XI, XII and XIII, and 33 participants from the DA and attached government agencies.



Legumes

The Luzon Legumes Summit (peanut, mungbean and soybean) conducted last November 19-23, 2018 in Ilagan, Isabela aims to address the issues and concerns as well as come up with possible strategic interventions that will form part of the proposed 5-year roadmap.

Comprehensive presentations which include production technologies, pest and diseases management, Good Agricultural Practices (GAP), business opportunities, DA credit programs and

crop insurance were also laid down during the summit to refresh and/or enhance the knowledge of the farmers on legumes production.



Malunggay

Conduct of Malunggay Stakeholders Consultation

The Malunggay Stakeholders Consultation conducted last November 10, 2018 in Naga City, aims to determine the issues and concerns faced by Malunggay growers and processors, as well as identify critical strategies for the crafting of the Philippine Malunggay Industry Road Map (2019-2024) to boost the Malunggay sector in the country.

Different bureaus and agencies of the Department of Agriculture such as the Bureau of Plant Industry (BPI), Agricultural Credit and Policy Council (ACPC), Philippine Crop Insurance Corporation (PCIC) and Bicol Integrated Agricultural Research Center, presented their respective programs and available technologies on production and processing of Malunggay. Initiatives on credit and insurance that may be availed by Malunggay farmers were also discussed.

Bicol Region ranked 3rd in the country in terms of Malunggay leaves production with 3,790 metric tons of fresh leaves harvested in 2016. This area is also known for processing and using Malunggay for desserts, chips and pastries with the help of the Bicol Integrated Agricultural Research (BIARC). The consultation session was attended by more than 70 Malunggay farmers, processors, and those interested to venture into Malunggay farming.



Ginger

Ginger Value Chain Analysis (VCA) Project

The FAO regional project entitled “Development of effective and inclusive food value chains in ASEAN Member States” is a three (3)-year project funded by the Government of Japan (Ministry of Agriculture, Forestry and Fisheries). It aims to make a significant contribution to the food and livelihood security of smallholders by integrating them into food value chains that link them to new market opportunities. In the Philippines, Nueva Vizcaya was selected as the pilot site of the project.

- **PHASE 1:** Conduct of VCA to provide an in-depth understanding of the range of factors and relationships that affect the performance of the ginger industry in Nueva Vizcaya, including end markets, enabling environment, and coordination/cooperation among stakeholders in the public and private sector
- **PHASE 2:** Implement actual interventions at pilot project site to overcome the challenges identified in the VCA

An Inception Workshop for the implementation of the Phase 2 of the FAO-DA Ginger VCA Project in the Province of Nueva Vizcaya was conducted last June 27, 2018 held at the Nueva Vizcaya Experiment Station (NVES), Bagabag, Nueva Vizcaya. The event was attended by the different Municipal Agriculturists, ginger farmers and

stakeholders of the different ginger-producing Municipalities in the Province of Nueva Vizcaya.



The results of the ginger value chain study as well as the strategic interventions especially designed by the Project National Committee were presented during the said event. Finalization of the list of farmer-beneficiaries for the project was also discussed and approved. In addition, planting materials, farm inputs, tools, materials and equipment were awarded to the demo farm operator-beneficiaries.

Establishment of Ginger Techno-demo Farms

Nine (9) ginger techno demo farms were established in strategic locations in the different municipalities of Nueva Vizcaya. The demo farms shall also serve as training sites for ginger farmers within their respective municipalities and their produce will be used as planting materials.



Conduct of Training of Trainers (TOT)

The first intervention implemented for the FAO regional project is the conduct of the Training of Trainers on Good Ginger Farming Practices with focus on Pest and Disease Management. The training was participated by demo farm operators from the different Municipalities in the province and facilitated by the project National

Technical Committee (NTC) composed of staff from FAO and DA. A pilot roll-out training was also conducted after the Training Workshop which was held at the established demo farms.

Strengthening Farmer Groups

The FAO Ginger VCA Project National Committee led by the FAO Regional Project Coordinator, Masanori Kozono, conducted a Training on Strengthening Farmers' Group re Think Coop: An Orientation on the Cooperative Business Model to the ginger farmers in Barangay Cabuluan, Villaverde, Nueva Vizcaya held last November 27, 2018.



Rollout Training on Ginger Production

Two (2) rollout trainings on ginger production were conducted last October 12, 2018 and November 28, 2018 with 103 and 24 ginger farmers in attendance, respectively in Kasibu, Nueva Vizcaya. The trainings were facilitated by the Municipal Agriculturist.



SIGNING OF PHILIPPINE MANGO AND BANANA ROADMAPS

Secretary Emmanuel Piñol approved and signed the Philippine Mango (2017-2020) and Banana (2019-2022) Roadmap last December 18, 2018 together with Usec. Evelyn G. Laviña, Director Sarah Cayona of PCAF, and industry stakeholders. DA spearheaded the formulation and integration of the Mango and Banana roadmaps in consultation with the industry stakeholders. The roadmaps will provide direction to all concerned stakeholders towards a sustainable and globally competitive mango and banana industries.



SUPPORT TO THE DA - URBAN AGRICULTURE

The DA continues to advocate for sustainable food production to guarantee and establish adequate food supply and achieve higher standards of living for the Filipino people. The Department aims to attain food self-reliance and self-sufficiency in the country by enhancing the capabilities of the Filipino people in the production of their own food through the adoption of various means of vegetable and other alternative staple crop production.

To achieve this, the DA - Urban Agriculture Pagkain Para sa Masa (DA-UAPPSM) program was developed. It aims to establish communal gardens that will showcase sustainable agri-urban farming, empower urban poor families to grow their own food, and complement existing feeding programs of the local government units. Specifically, the program aims to:

- Integrate farming into the lifestyle of the urban dwellers by introducing the values of basic food productions, healthy food systems and clean urban environment;

- Build strong partnerships and organize collaborating linkages with the LGUs, CSOs, SUCs advocates/practitioners organizations, home-owners and community associations in the implementation, promotion and development of urban agriculture in NCR and other highly urbanized areas in the country;
- Showcase replicable methods and technologies on urban agriculture/edible landscaping and sustainable agriculture thru the establishment of shared or communal gardens and crop museums in barangays/State Universities and Colleges/individual households to showcase model farm in their locality;
- Develop skills of urban dwellers and interested clientele on urban and organic agriculture technologies; and
- Mitigate hunger and provide additional income for urban dwellers through food production.



On February 1, 2018, the DA, through the Agricultural Training Institute (ATI), conducted a Training on UAPPSM Program at Barangay Bahay-Toro. It was attended by a total number of 37 urban women from their community. To empower the beneficiaries of the program to grow their own food and manage the communal garden thru lectures, demonstration and hands-on exercise on various technologies were conducted.

SUPPORT TO INDIGENOUS PEOPLES

A model vegetable farm was established in the Katutubo Village in Planas, Porac, Pampanga around the second semester of the year. A sustainable development plan for the community was also formulated.

This was a concerted effort of the DA, Pampanga LGU, National Commission on Indigenous Peoples, IP mandatory representatives, and Happy Heart Foundation. The foundation adopted the Katutubo Village comprising of around three thousand (3,000) IPs with a land area of 5 hectares.



THRIVING IN TUNGAO: THE GROWING KM. 7 FARMER PRODUCERS COOPERATIVE



Located in a remote farmland in Barangay Tungao, Butuan City, the Kilometer 7 Farmer Producers Cooperative has become a place for former New People's Army (NPA) rebels for a second chance.

"This farm has made a great impact in their lives. They were NPA rebel returnees, brought here by the local authorities some years ago. When you see them now, they have changed for the better even their status in life," says Nilo Calipayan, the cooperative's president.

The Kilometer 7 Farmer Producers Cooperative started when the Nasipit Lumber Company (NALCO) shut down operations in 1997, leaving the farmers jobless. "We had no capital. We organized our group and sought help from the Department of Agriculture. They taught us how to farm, how to use technology in farming, and the High Value Crops Division gave us seedlings to start with," explains Calipayan.



The cooperative now has a sizable diversified farm, growing rubber, coffee, cacao, and many fruits and vegetables. They also have a fishpond and a dairy farm. From 26 farmers, the cooperative now has more than 400 active members.

"The members were given trainings on value adding, processing, and marketing and their group is one of the successful recipients of our high value crops program. Their area is very suitable for these crops. We are proud of them because they now have their own nursery, and have been given equipment to process their products," says Rebecca Atega, Field Operations Chief of DA Caraga.

What is the cooperative's secret to success? Calipayan says it all boils down to values formation. "We have a system, called Free Membership Seminar (FMS) before

people can join the cooperative. We do not discriminate between religions, political beliefs, or tribes, anyone can join as long as they understand that they need to let go of their personal interests. We let them go through a values formation seminar. Even people who do not own any land can join, they can be good at marketing, production, or working at the nursery. We remain transparent about our transactions and never let our personal interests get in the way," says Calipayan.

The cooperative owns its own land, while it also has members who run their own farms. "Farmers here used to have a hard time selling their products, the traders gave very low prices. Now we buy our members' products including coffee, rubber sap, and others, then we process what we can with our equipment," Calipayan says proudly. The cooperative's next step is to put up a rubber sap processing facility.

"These commodities really lead in the international market. The market is very favorable, so the prices should be good," says Atega. "We have big plans for this cooperative, we want our farmers to graduate from producers into entrepreneurs. We also encourage them to go into other commodities like upland varieties of rice and corn, and poultry and livestock production," she added.

The cooperative has started giving orientations and talks to farmers from different areas and barangays. "We share what the DA taught us about diversified farming, livestock and small water impounding to other clusters. For example, we tell them



to place their plants at a distance so they can plant something else in between and maximize profit. We orient them on our system of farming so that they too can have what we have," Calipayan reveals. The cooperative has members in Tungao, other barangays and other municipalities.



"Our area used to be full of chaos, one man chasing the other with a bolo as early as 8am because they are already drunk, because they had no job, nothing to do. Now our cooperative provides more than enough jobs for the men and women in our community. We employ people for our nursery's development, to do the budding for our plants. We get the women to do the budding because their gentle hands mean a higher survival rate for our buds. We have an employee who earns 20,000 pesos a month for doing the budding. We are all very thankful to the DA for their never ending support. They have given us seedlings, equipment, and they even got our roads paved. I like their principle, that as long as a farmer works hard and the DA sees the results, their support continues to pour in," Calipayan exclaims.



Just like any other businesses, the Casile-Guinting Upland Marketing Cooperative (CGUMC) in Brgy. Casile, Cabuyao, Laguna, started small. With no knowledge on recommended farm and postharvest practices, farmers used to do strip harvesting where both ripe and unripe coffee berries were harvested. Moreover, farmers dried their coffee on pavements, rain or shine, resulting to low quality beans. Using the traditional method, the full potential of coffee was not achieved.

With the assistance provided by DA, farmer members of CGUMC now practice selective harvesting where only ripe coffee berries are picked. Machineries and equipment were also provided by DA to help the cooperative improve its postharvest practices.



Removing the fruit flesh of the coffee cherries is now easier using depulpers.



Availability of different dryers makes the drying process quicker & more even.



CGUMC now has 2 dehullers given by DA Region IV-A



The CGUMC Coffee Processing Center was turned into a learning site for coffee production and processing.

BUILDING BACK BETTER: IDPS OF MARAWI STARTS TO BENEFIT FROM VEGETABLE PROJECT

The Department of Agriculture launched the Vegetable Production Project for internally displaced persons (IDPs) under the High Value Crops Development Program (HVCDP) in August 2018. This is part of the Department's response and recovery efforts to the Marawi crisis which has a three-fold objective, namely: 1) to provide safe and nutritious food; 2) to enable IDPs to have additional source of income, and; 3) to provide a psycho-social avenue to help IDPs adjust and recover from the trauma of the crisis.

Five months after its launching, vegetable production sites were established equivalent to a total of 16 hectares, two (2) of which are within the periphery of Marawi, Brgy. Bito Buadi Itowa, and Brgy. Bubung Punod while eleven (11) are located in the adjacent municipality of Saguiran. The assistance included the distribution of certified assorted, and suitable vegetable seeds, training on appropriate technology, and on-site technical assistance. The Food and Agriculture Organization of the UN (FAO) co-implemented the project & distributed vegetable seeds & garden tools.



A total of 1,211 evacuees and host farmers directly benefitted from this initiative. They received 1,450 packs of vegetable seeds, 36 kgs. of Mungbean and 7 knapsack sprayers.

Today, the beneficiaries started to reap the benefits of the project as their vegetable plants continued to grow and ready for harvest. The group recently generated Php19,500 earnings from okra, string beans and pechay sales, and are looking forward to earning more when their tomatoes and cucumbers are harvested and sold. Vegetable traders directly go to the production sites to purchase the beneficiaries' produce so they can save on transport and marketing costs.



Amersab Faisal, one of the vegetable growers, shared that what they received from the total income from vegetable sales really helped them provide for the basic needs of their respective families. The communal activity also helped in rebuilding their community around a common productive endeavor.

CHAPTER

08

NATIONAL FISHERIES DEVELOPMENT PROGRAM



To address the predicaments that confront the fisheries sector, the DA, through the Bureau of Fisheries and Aquatic Resources (BFAR), continues to provide appropriate interventions and initiatives under its core programs and projects such as the Fisheries Development Program, Fisheries Regulatory and Law Enforcement Program, Fisheries Extension Program, and Fisheries Policy, among others. As a result, fisheries production has finally started to recover after a quite long time of declining growth and recorded a 4.35 million MT production volume in 2018 valued at Php 246.8B which is 0.92 percent higher than the 2017 production volume of 4.31 million MT.

The BFAR implemented the following major sector strategies in line with the goals and strategies laid out in the Comprehensive National Fisheries Industry Development Plan 2016–2020, and its mission of improving fisheries productivity within ecological limits and empowering stakeholders towards food security, inclusive growth global competitiveness and climate change adaptation.

ENHANCE AND STRENGTHEN FISHERY LAW ENFORCEMENT AND REGULATORY ACTIVITIES TO ADDRESS ILLEGAL, UNREPORTED AND UNREGULATED FISHING (IUUF)

Conduct of the 1st Command Conference of the Philippine Committee (PhilCom) Against Illegal, Unreported and Unregulated Fishing (IUUF)

IUUF has become a global and national concern as it undermines regional and national efforts to manage and conserve aquatic resources and habitats and contradicts the goal of the amended Fisheries Code to achieve food security.

On December 17, 2018, the BFAR initiated the conduct of the 1st Command Conference of the PhilCom against IUUF at the Philippine International Convention Center. It was chaired by DA Secretary Emmanuel F. Piñol and was participated by various national government agencies and private sector representatives.

The PhilCom was created pursuant to Executive Order No. 154 series of 2013, which was signed and published in the Official Gazette on December 6, 2013. Chaired by the Secretary of the DA or his duly authorized representative, it is tasked to address IUU fishing using a government approach, primarily by ensuring the implementation of the First

Philippine National Plan of Action (NPOA) to prevent, deter and eliminate IUU fishing.



The Chair of the PhilCom and members

The First Command Conference served as an effective venue to monitor the committee's progress and accomplishments, discuss and approve the Internal Rules and Procedure (IRP) and the Joint Memorandum Circular (JMC) adopting the Fisheries Law Enforcement Manual of Operations (FLEMOP), review other policy deliverables, and recognize persons and organizations for their valuable contribution to the fight against IUU fishing.

Fisheries Regulation & Law Enforcement

Fisheries Regulation and Enforcement Activities

Under the Bureau's regulatory functions on monitoring, control and surveillance (MCS), 34 multi-missions were operated and 81 MCS and patrol vessels were deployed in their respective areas. A total of 4,849 field operations were conducted that resulted to a total of Php181,839,396.00 fines and penalties collected nationwide.

The Fisheries Protection and Law Enforcement Groups (FPLEGs) conducted trainings to capacitate fishery law enforcers and enhance their capabilities in enforcing fishery laws. Two (2) major trainings were conducted in 2018, the National Capability Building Program for Fishery Law Enforcers (NCBP-FLE) with 52 graduates, and GIS training and hotspot mapping with 56 attendees.

Monitoring and Inspection of Fishery Facilities and Products

Monitoring and inspection of fishery facilities involved in the production chain is one of the

regulatory functions of BFAR to ensure the protection of consumer welfare, product safety and public health. In 2018, the Bureau monitored and inspected 4,082 aquaculture farms and fishery facilities that resulted to 31,529 analyses.

On the other hand, the Bureau established and maintained quality assurance laboratories mandated to provide laboratory services on the verification of physical, chemical and microbiological examinations of fish and fishery product for export, import and local consumption consistent with RA 10611, also known as the "Food Safety Act of 2013. During the period, a total of 8,634 fishery products were monitored and inspected by the Bureau coupled with 50,364 analyses of the results.



Quarantine Registration and Licensing

Under this component, the Bureau regularly issues permits, licenses and accreditations to fisheries entities. For this year, a total of 25,872 permits and licenses were issued to commercial fishing vessels, 417 to fishpond lease agreement (FLA) covered areas, while 62,078 were issued to other fishery entities.

CLIMATE-RESILIENT TECHNOLOGIES TO CONTRIBUTE TO REDUCING POVERTY AND ACHIEVING INCLUSIVE GROWTH

BFAR Initiatives – Climate Change Disaster Risk Reduction Management (CC-DRRM) in Fisheries

The Bureau was able to craft the Climate Change Disaster and Risk Reduction Management (CC-DRRM) Strategic Framework for Fisheries based on the four (4) thematic themes: Prevention, Preparedness, Response, and Rehabilitation and Recovery. Based on the framework, an Action Plan was drafted composed of deliverables such as establishment of the National, Regional and Provincial Action Centers, activation of CC-DRRM

teams, development of IEC materials, and development of climate resilient technologies, among others. The Bureau is now in the process of drafting its CC-DRRM Manual of Operation through a series of workshop conducted together with the National Fisheries Research and Development Institute (NFRDI) and the CC-DRRM teams.

F/B Pagbabago Livelihood Program

The Fiberglass Reinforced Plastic (FRP) boats under the F/B Pagbabago Livelihood Program which are disaster-resilient, more durable and environment-friendly are designed to ensure resiliency and safety of fishermen at sea. The Bureau also institutionalized the training and capacity building on the construction of FRP boats as a livelihood intervention to help uplift the economic status of fisherfolk by empowering them and their families to become responsible resource users. Since its implementation in 2016 until December 2018, a total of 10,213 FRP boats have been distributed nationwide benefitting 382 groups and 6,645 individuals. For FY 2019, BFAR targets to construct and distribute 1,921 additional FRP boats.



Special Area for Agricultural Development (SAAD) Fisheries Component

The performance of BFAR-SAAD in 2018 can be attributed to the concerted efforts of the BFAR Central, Regional and Provincial Offices in coordination with the LGUs.

With the challenges that confront marginal fisherfolks in the country, BFAR-SAAD provided appropriate interventions and initiatives to fulfill its mission of improving the income of fisherfolk in the identified priority provinces through its core livelihood programs and projects such as the

Aquaculture Production Program, Capture Fisheries Development Program and Post-Harvest Development Program.

In FY 2018, the fisheries component of SAAD was able to provide 18,216 livelihood projects to 6,979 individuals and 127 group beneficiaries. Moreover, the program conducted 55 training activities that benefitted 1,218 marginal fisherfolk.

ENSURE SUSTAINABILITY THROUGH INTENSIFIED RESOURCE PROTECTION, MANAGEMENT AND RESOURCE ENHANCEMENT

Malinis at Masaganang Karagatan (MMK)

The Malinis at Masaganang Karagatan (MMK) is BFAR's incentive program conceptualized to promote fisheries resource protection and conservation to fisherfolk and other stakeholders in coastal municipalities. Launched in August 2016, MMK has been active in searching for the country's most outstanding coastal communities. It has already awarded several millions of pesos worth of livelihood projects to coastal towns that best exhibit good Coastal Resource Management (CRM) practices based on the following criteria:

- Absence of Illegal Fishing;
- Observance of off-fishing season;
- Declared marine protected areas;
- Clean, coastal waters without any garbage or industrial effluence flowing to the sea; and
- Effective mangrove protection and rehabilitation

On April 5, 2018, the 2017 winners of the MMK, namely: Cortes, Surigao del Sur – Hall of Famer, Laguindingan, Misamis Oriental – first prize, Palompon, Leyte – second prize and Claveria, Cagayan – third prize were awarded at the Malacañan Palace.



MMK Field Evaluation, Gigaquit, Surigao del Norte

The MMK TWG already finished the desk and field validation for the FY 2018 search. Out of 75 municipalities that joined in the program, the top 5 national nominees were chosen, namely:

1. Alaminos, Pangasinan
2. Lobo, Batangas
3. Macrohon, Southern Leyte
4. Samal, Davao del Norte
5. Gigaquit, Surigao del Norte

Since its launching in 2016, 195 municipalities nationwide benefitted from the program. A total of Php 226 million worth of livelihood projects have been awarded to deserving coastal towns that have served as effective partners of the government in promoting good and sustainable CRM practices.

Balik Sigla sa Ilog at Lawa (BASIL) Project

Launched in April 2017, the BASIL project, formerly known as the National Inland Fisheries Enhancement Program (NIFEP), aims to rejuvenate the country's major inland bodies of water to optimize their economic benefits, enhance fisheries towards sustainability, and repopulate indigenous species in support of biodiversity conservation and food sufficiency.

For 2018, 87 inland management areas were validated and 17 were restored and enhanced. A total of 19.55 million fingerlings were stocked and an accumulated 2,690 MT-fish production from BASIL management areas was recorded for the year.



Fish dispersal of common carp fingerlings in Cabanglasan SWIP & Lake Pinamaloy in Bukidnon

Implementation of Closed Fishing Season

RA 8550 as amended by RA 10654, otherwise known as the Philippine Fisheries Code adapted one of its major strategies to safeguard the fisheries sector, the implementation of closed fishing season in selected waters in the country and to conserve, manage and protect the small pelagic fishes. It was initiated also to rehabilitate the fish stock population of small pelagic fishes and the improvement of the ecosystem.

Table 3. Closed Fishing Season Implemented

Fisheries Management Area	Period
Sardines and Small Pelagics	
Davao Gulf	01 Jun-31 Aug 2018
Palawan Waters	01 Nov-31 Jan 2019
Visayan Sea	15 Nov-15 Feb 2019
BaSuTa & Zamboanga Sibuguey	01 Dec-01 Mar 2019
Ludong in Cagayan River & its connected river systems (Santa-Abra River Systems of Ilocos Sur & Abra)	01 Oct-15 Nov 2018

Establishment of Tuna Conservation and Management Zone (TCMZ)

To address the unintentional catching of juvenile tunas, the Bureau established the Tuna Conservation and Management Zone (TCMZ) in Mindanao-Celebes Sea through Fisheries Administrative Order (AO) 258. The TCMZ designates fishing areas exclusive for tuna handline fisheries by deploying fish aggregating devices (FADs)/payaos along designated areas within the said fishing ground. It enhances access among small-scale tuna fishers and promotes selective fishing technique such as tuna handline that can reduce incidence of juvenile tuna catch. Specifically, the said issuance prohibits catching of tuna in seven (7) cluster areas by means of purse seine, ring net or other fishing methods using nets.

The initiative targets to deploy at least 10 payaos for each of the seven (7) clusters. To date, there are already 35 payaos deployed in four (4) cluster areas accessible to small handline vessels in the provinces of General Santos City, Sarangani and Sultan Kudarat. In order to capacitate the TCMZ

beneficiaries, technical orientations on catch reporting, payaos monitoring, revenue mechanisms, management and other roles in the project were also conducted. Additional payaos are targeted to be deployed in three (3) more offshore cluster areas along the Indonesian border.



DEVELOP KEY AGRICULTURAL COMMODITIES TO INCREASE PRODUCTION

Roadmaps for Five High-Potential Fishery Commodities



Shrimp (Hipon Program)

- Issued 2,531 health certificates for in-country trans-boundary movement of live post-larvae (PL) for aquaculture purpose
- 14,814 *P. vannamei* & *P. monodon* broodstock were imported by BFAR certified hatcheries for breeding
- Intensified activities on shrimp grow-out farm certification to prevent the spread of diseases and eventually increase production
- Presently, there are 57 BFAR registered and certified hatcheries nationwide and a total of 662 shrimp grow-out farms were certified and registered by BFAR.
- For the disease surveillance and monitoring activities, BFAR laboratory analyst conducted 7,443 analyses for shrimp disease detection and analyzed 953 pond samples using the site water quality test method.



Bangus

- For milkfish production improvement, BFAR's main focus is on broodstock development, nursery and techno demo as well as input assistance.

- In 2018, milkfish production reached 5,881.57 MT based on the PSA data. Also, the Bureau maintained 4,387 pcs of milkfish broodstock and distributed a total of 42M fingerlings to 61 groups or associations and 713 individuals for the same year.



Tilapia

- Tilapia Genetic Enhancement and Broodstock Distribution - Distributed 3,456,782 pcs tilapia and has conducted 2 breeding programs (iBEST and Red)
- Product Quality Assurance in Tilapia Hatchery Industry - Activities conducted include: provision of tilapia profile and productive traits; implementation of best management in tilapia fingerlings; identification of appropriate tilapia strains for different farming environments; etc.
- BFAR-Private Partnership Component - Technology packaging and promotion of intensive tilapia hatchery and nursery technologies; Rehabilitation of BFAR TOS for intensive tilapia production; Production of tilapia swim-up fry; and Technology Demonstrations of nursery advance tilapia fingerling production. Under this component, 96.3M pieces of tilapia fingerlings were produced.
- Production Expansion in Brackishwater and Small Water Impoundments (SWIPs) - There were initiatives to produce 0.525 M at the National Freshwater Fisheries Technology Center (NFFTC), Munoz and 0.358 M at the National Inland Fisheries Technology Development Center (NIFTDC), Dagupan for iBEST, Molobicus and Red tilapia broodstock, distributed 10.78 M iBEST, Molobicus and Red tilapia fingerlings, and stocked 242 SWIP's nationwide.
- Produce more with less feeds - Conducted 12 BFAR Staff training on aquaculture nutrition via online and 90 technicians/farmer trained on aquaculture feed formulation; and on Local Market Networking, conducted market surveys were in Regions II, III and CAR.



Seaweeds

- Distributed a total of 1,895,453 seaweed propagules and 5,160 sets of seaweed farm implements nationwide while BFAR maintained seaweed nurseries and seaweed tissue laboratories in various locations nationwide.
- Intensified cooperative organizing where Regional Seaweed Coordinators were trained as cooperative organizers/trainers.

- The National Seaweed Technology Development Center (NSTDC) continues to maintain the seaweed nursery as well as seaweed techno-demo farm including intervention to maintain seaweed culture laboratory including distribution of seaweed propagules.



Shellfish

- BFAR continues to embark on raft maintenance for seeding of shellfish since it aims to produce quality and safe oyster and mussel. It also intends to distribute seed collectors for potential areas with insufficient supply of seeds. Conducted trainings in priority areas to capacitate and improve the competency of shellfish farmers on culture and value adding technologies.
- Carried out technical assistance and information, education and communication (IEC) campaign to ensure improvement of the shellfish industry.
- Under the Shellfish Program, BFAR is mandated to prevent Harmful Algal Blooms (HABs) that aims to protect the ecosystem and most importantly, public health. This is another regulatory function of BFAR where in 2018, 2,839 HAB monitoring were conducted and operated eight (8) HAB laboratories nationwide.

REDUCE POST-HARVEST LOSSES AND IMPROVE MARKETING OF FISHERY AND OTHER AQUATIC PRODUCTS

Establishment of Community Fish Landing Centers (CFLCs)

The Community Fish Landing Center (CFLC) Project is a component of the BFAR's Targeted Actions to Reduce Poverty and Generate Economic Transformation (TARGET) Program. The project provides coastal communities with CFLC equipped with fish stalls and chest freezers.



San Lorenzo CFLC, Sebario, San Lorenzo, Guimaras

With the main goal of improving the socio-economic conditions in poor fishing communities by reducing post-harvest losses and promoting the sustainability of aquatic resources, the CFLC, serves as a landing and fish trading hub for artisanal fisherfolk and training center for fish processing, value adding, and conservation and protection of the fisheries resources.

Out of the 729 targeted CFLCs to be established nationwide, 210 units are operational, 315 units have been constructed but not yet operational and 204 are for completion as of December 2018.

Comprehensive Post-harvest, Marketing and Ancillary Industries Plan (CPHMAIP) 2018-2022

Based on the Comprehensive National Fisheries Industry Development Plan (CNFIDP) Medium Term 2016-2020, post-harvest losses range from 25%-40% from the fisheries output. Initial findings of the National Fisheries Research Development Institute's (NFRDI) research on fisheries post-harvest losses conducted in 2018 revealed that BFAR accomplished a 0.28% reduction in fisheries post-harvest losses.



Figure 21. CPHMAIP 2018-2022 Themes

BFAR developed the Comprehensive Post-Harvest, Marketing and Ancillary Industries Plan (CPHMAIP) 2018-2022 as mandated by the amended Fisheries Code through an industrywide consultation and consensus building. The said consultation was composed of 250 personnel and key representatives from relevant national government agencies (NGAs), industry stakeholders of major

fisheries and aquatic commodities, post-harvest, processing and ancillary service providers, academe and other research institutions, National Fisheries and Aquatic Resources Management Council (NFARMC), LGUs, civil society organization (CSOs), non-government organizations (NGOs) and other stakeholders. The CPHMAIP 2018-2022 aims to bring down fisheries post-harvest losses to 10% and increase the competitiveness of Philippine fish and fishery products, both in the domestic and international markets.

National Fisheries Research & Development Institute (NFRDI) Completed and Ongoing Researches

For FY 2018, the National Fisheries Research & Development Institute (NFRDI), the research arm of BFAR, successfully completed 19 research projects while 22 RDE initiatives are still ongoing in the fields of fisheries production, post-harvest handling and processing, and trade and marketing, among others.

NFRDI Completed and Ongoing Researches

The DA will allocate at least P150M to provide 50 fishing communities with modern ice making equipment which could produce between 1 to 5 tons of ice flakes everyday and reduce post-harvest losses. The Agriculture and Fisheries Machinery and Equipment (AFME) Loan Program which was introduced to the fisherfolk organizations during the DA-BFAR Post-Harvest Equipment and Machinery Exhibit on December 18, 2018 is one of the rural credit innovations of the DA-ACPC with an annual interest of only 2% payable in 8 years. It aims to provide farmers and fishermen easy access to non-collateral credit windows to improve their productivity and minimize post-harvest losses.

Under this program, the fishermen's groups or organized wives and daughters of fishermen will be given access to loans equivalent to the cost of the ice-making equipment and a minimal operational fund for a shed, electrical connections and working capital.

THE IMPACT OF THE F/B PAGBABAGO LIVELIHOOD DEVELOPMENT PROGRAM

The F/B Pagbabago Livelihood Development Program aims to uplift the economic status of Filipino fisherfolk and empower the fisherfolk and their families to become responsible resource users through the provision of disaster-resilient fishing boats and resource-appropriate fishing gears.

Job opportunities and employment generation.

Thirty (30) newly trained fisherfolk from Lucena, Quezon were afforded with work at the Pacificfortia Marine Technologies Inc. The newly established company was in need of fiber reinforced plastic (FRP) technicians and requested the assistance of BFAR for the hiring of needed personnel. Five (5) of the 30 technicians were sent abroad by the said company to further train on FRP boat construction.



Women in Fiberglass Boat Construction.

More and more women are now involved in FRP boat construction. Take the case in the construction of FRP boats in the Province of Antique. When news came out that BFAR is in need of local laborers on the construction of FRP boats, all of the applicants were male fishermen. But when the training and familiarization on boat construction commenced, the fishermen's wives attended instead. Since the fishermen are out at sea most of the day, they requested that their wives could do the work. This in turn could augment the income of the husbands derived from fishing. At present, there are 23 women technicians involved in the construction of 900 units FRP boats in Antique.

Increased Fish Catch and Production.

Although made from tougher & stronger materials, the FRP boats are lighter compared to traditional wooden bancas. This enabled fishermen to cover larger or wider fishing grounds in a given time.

Low Maintenance and Operational Cost.

Unlike the traditional wooden banca, the FRP boats have very minimal maintenance cost. They are coated with a specialized Gelcoat that inhibits marine animals from boring into the hull of the FRP boat. The boats have a lifespan of 30-50 years with less or minimal maintenance. They are sturdier, tougher, and equipped with displacement chambers making them "unsinkable".

Safety of Life at Sea.

Aside from being made of FRP materials which make the boat stronger compared to traditional wooden banca, the FRP boats awarded by BFAR are equipped with displacement chambers or "floatation chambers" at the bow and aft portion of the boats. This unique design enables the boats to remain afloat should the boats capsize during unfavourable weather conditions. While the boats are afloat, the fishermen will be able to hang on to the boat and remain afloat until rescue arrives.

Environment Conservation and Protection.

FRP boats do not use wooden materials; they are made of purely fiberglass materials. One tree is equivalent to a regular 20-30 footer wooden banca. So, indirectly, the use of FRP boats contributes to the conservation and protection of trees.





COMMUNITY FISH LANDING CENTERS: CREATING RIPPLES OF CHANGE IN THE COASTAL COMMUNITIES OF WESTERN VISAYAS

Community Fish Landing Centers (CFLC) in Western Visayas now offers safe and quality fish and fishery products. Its operationalization as established by the Department of Agriculture- Bureau of Fisheries and Aquatic Resources (DA-BFAR) is a response to the public's marketing and trading needs which also address the issues on fisheries post-harvest losses in Western Visayas. The establishment of CFLCs supports the region's agenda to improve economic stability and reduce poverty incidence especially in coastal municipalities, while at the same time providing affordable, safe and quality food for the community.



Operational CFLCs in the Region

Thirty-five (35) out of 61 CFLCs were turned over and are now operating in Western Visayas. These facilities serve as venue for landing and trading of fishery products, and other economic activities. Landing centers are classified into two types based on the periodical operation: those that operate throughout the year are termed as "year-round landing centers" and those operating only for a certain period is called as "seasonal landing center".

Most of the fish landed in year-round landing and trading centers are of high-value species. These facilities cater to landings of different fishery products caught either from the wild (ocean waters) or aquaculture farms and distributed to different local market channels. Seasonal landing centers are used to display groceries and other agricultural products and sometimes rented out for occasions during off-fishing season.

Aside from being a landing and trading facility of fishery products, the CFLCs in Pilar, Capiz; Sipalay and Pontevedra, Negros Occidental also house post-harvest and processing activities such as drying, smoking and deboning of milkfish and other fish species. Meanwhile, in Kalibo and New Washington, Aklan, the CFLCs serve as skills development and training center for fisheries technology and fisheries resource management.



The CFLC's core purpose is to serve as a hub for economic activities, a venue for skills trainings, and for information generation. It is also considered as a center for sharing sustainable and disaster-resilient fisheries-based livelihoods and resource management, and for monitoring fish catch stocks. The CFLCs turned over are either managed by the Local Government Unit or by the fisherfolk organization (FFO) in the area. LGUs provide funds for its operation and maintenance to include electricity, water expenses and manpower until such time the FFO is ready to shoulder the facility's operating expenses.

People's participation in decision-making and in project implementation of CFLC services is important thus, BFAR continuously assists the Project Management Committee (PMC) and FFOs in identifying strategies of implementation as well as in the operationalization of CFLC. The conduct of dry run activities has been undertaken as an initial step towards fully operating the fish landing center.

The Region still has 26 CFLCs to be operationalized; it is vital to involve stakeholders in all stages of the project implementation to ensure their success and sustainability. With the sustained efforts of the LGU, BFAR and fisherfolk organizations in the operation of CFLCs, once established, these could create a wholesome environment for fisheries trade and businesses geared towards an economically-sound and sustainable fisheries industry in the region.

CHAPTER

09

NATIONAL LIVESTOCK PROGRAM



Under the current administration, the effective development and implementation of a National Livestock, Dairy and Poultry Program was identified as one of the 10 basic foundations of a sound agriculture and fisheries program. The program envisions to establish productive livestock, poultry and dairy industries that cater to the local demand of the growing Philippine population and also take advantage of foreign market demand.

To realize this, the following initiatives were instituted by the DA-National Livestock Program (NLP), in coordination with all livestock agencies under the DA:

EXTENSION AND TRAINING SUPPORT FOR SMALLHOLD LIVESTOCK AND POULTRY RAISERS

National Backyard Poultry Production and Promotion Program

The NLP launched a nationwide campaign on the promotion of scientific and sustainable poultry production among small-hold and backyard farmers in 2018, through the Agricultural Training Institute (ATI) as the implementing unit. The “Back-to-Basics: Scientific and Sustainable Poultry Production” is a one-day technical seminar on raising Free-Range Chickens (FRC) and ItikPinas (IP) that caters to hundreds of farmers in one session. After the seminar, participants received their post-training kits that consist of 12 breedable FRC or IP (10 females: 2 males). In 2018, there were a total of 16 sessions conducted and 7,066 beneficiaries trained.

The NLP had identified clusters of farmer-beneficiaries and provided equipment support like incubators. After initial monitoring, the beneficiaries produced eggs, while others had grown their flock from 12 head to hundreds. With the help of ATI, beneficiaries’ clusters were given follow-up support and training that involves processing and value-adding of eggs, enterprise, and marketing. The beneficiaries did not only produce salted eggs and balut but became entrepreneurs too, and earned sustainable livelihood thru the “Back-to-Basics: Scientific and Sustainable Poultry Production”. In 2019, all beneficiaries in 2018 will repay with the same number of stocks given to them by passing these to next-in-line beneficiaries identified by their communities.



Farmers' Livestock School

100 trainings conducted
2,781 beneficiaries served



Livestock School-on-the-Air

20 conducted
11,027 participated

Livestock and Poultry Learning Sites

103 new learning sites established
57 learning sites enhanced



1st Livestock Technology Expo

With the theme, "Masaganang Paghahayupan sa Teknolohiyang Maaasahan", the first Livestock Technology was conducted last October 8-10, 2018 in Tagbilaran, Bohol. The activity, which aims to showcase mature livestock technologies for mainstreaming and adoption of industry stakeholders, was attended by 3,000 smallhold livestock farmers nationwide.



Livestock and Poultry Trainings for Trainers (TOT) of 4Ks Program for Indigenous People

Under this initiative, 2 TOTs were conducted in 2018:

- TOT for Free Range Chicken (ATI Tandingan, South Cotabato, July 2018)
- TOT on Swine (ITCPH, Lipa City, Batangas, October 2018)



ANIMAL GENETICS DEVELOPMENT

Unified Artificial Insemination Program (UNAIP)

Coordinated by the Bureau of Animal Industry (BAI), UNAIP has been providing the strategic direction in the existing Artificial Insemination (AI) efforts for cattle, carabao and goat production in support to DA's livestock genetic improvement agenda. Through UNAIP, it harmonized the carrying out of efficient livestock breeding programs using the AI technology among livestock agencies and DA RFOs. The main components of the program include: (1) semen production and distribution; (2) accreditation of AI technicians; (3) AI cash-calf incentive; and (4) establishment and maintenance of Liquid Nitrogen (LN2) plants.

In 2018, 321,204 semen straws were distributed under UNAIP and served 37,379 individual farmers and 279 farmer groups.



LN2 Plant at the BAI

"AI sa Barangay"

In an effort to ensure the provision of AI services in the countryside, the NLP launched the "AI sa Barangay" initiative which aims to provide training to technicians in every area with 5,000 sows. Trained AI technicians were given capital inputs, breeder boars, and AI equipment. In 2018, 39 AI sa Barangay pilot hubs were launched.



Boar Auction Centrum

A “Boar Auction” was held last September 20, 2018 during the launching of the Boar Auction Centrum at the International Training Center for Pig Husbandry (ITCPH). It was attended by 266 individuals including bidders from Batangas, Cavite, Bulacan, Pampanga, Nueva Ecija, Tarlac, Lucena and Laguna.



Prior to the auction proper, boars undergo performance tests before being caged near the auction ring for public viewing. Thru the auction’s mobile bidding system, registered bidders participated successfully.



SUPPORT TO LIVESTOCK AND POULTRY PRODUCTION AND ENTERPRISE

Multiplier Farm Development Program

This program involves the establishment of a livestock farm with necessary components for operation that includes basic housing, breeder animals, machineries, equipment, feeds provision, and other needed farm implements. It is aimed towards the dissemination of good and quality animal stocks in rural communities for the production of more stocks which could be given to

smallhold farmers and individuals or groups needing animal provision for livelihood. The direct beneficiaries of the Multiplier Farm Development Program are organized groups/associations, local government units, and state colleges and universities.



As the beneficiaries operate the farm and produce animals, they can provide animal stocks for dispersal to other members. Commodities covered by the program are swine, cattle, goat, sheep, chicken, duck, and honey bee. Since 2016, the NLP was able to establish 352 Livestock Multiplier Farms in all regions around the country and 97 in 2018.



Establishment of Feedmills

Spearheaded by the BAI, in partnership with LGUs, this initiative supports the implementation of the NLP that seeks to address the problem of high input cost in livestock and poultry production. The feedmills intend to provide low cost but quality feeds to backyard swine and poultry raisers utilizing readily available ingredients such as corn, rice, cassava, and other feed crop resources thereby, increasing farmers’ income and ensuring sustainable livestock and poultry production in the countryside.

With a budget allocation of Php50 million, five (5) feedmill establishments will be established in the following localities:

- LGU Sibalom, Antique (Php7.5M)
- LGU Pigcayawan, North Cotabato (Php7M)
- LGU Dumalinao, Zamboanga del Sur (Php7M)
- PLGU Sultan Kudarat (Php7M)
- PLGU Bataan (Php10.5M)

The NLP is currently working closely with LGU beneficiaries to facilitate the signing of MOAs and completion of other documentary requirements.

Promotion of Low-cost Feed Alternative

The hydroponic fodder system is a temperature and humidity controlled growing room specifically designed to sprout grains that are very nutritious. A selection of grains is put into trays without soil and sprayed with water solution at predetermined intervals. After seven (7) days, the fodder is removed from the tray and can be fed to the animal. The animal eats everything (i.e. roots, leaves and nuts) making the hydroponic fodder waste-free, 100% sustainable and cost-effective. This technology is seen as an answer to those who want to engage into animal production with minimal area to plant fodder.



Hydroponic fodder (corn) produced

According to the study conducted by International Training Center for Pig Husbandry (ITCPH), giving hydroponic fodder of the required amount of feeds to pigs will result to the same weight of 25kgs if given 100% conventional feeds. However, comparing the feed cost, it turned out that supplementing hydroponic fodder at the rate of 1/3 of the total consumption is still cheaper at Php444.96 compared to that of 100% conventional feeds at Php590.00.

Construction and Improvement of LGU Meat Establishments and Provision of Small-scale Slaughterhouses

Under the Meat Establishment Improvement Program of the National Meat Inspection Service (NMIS), the DA endeavors to construct, establish, relocate, rehabilitate, improve, or upgrade existing slaughterhouses particularly those in the third to sixth class municipalities in the 10 priority (poorest) provinces of the country identified by NEDA. This is to conform with the NMIS standards and the requirements of meat hygiene and meat safety.

With a budget allocation of Php200 million, the DA, through NMIS, targets to construct and develop 25 meat establishments and slaughterhouses in 25 LGUs. To date, all 25 projects are already ongoing implementation or in various stages of the procurement process.

Research and Development Initiatives on Animal Products Development

Completed Researches by the BAI-Animal Products Development Center (APDC)

- Standardization of Winning Recipes from the National Meat Processing Contest
- Improvement of Processing Technologies for Meat and Skins from Selected Strains of Native Pigs
- Product Development of Low Cost Sausages
- Product Development of Reduced-Fat, Reduced-Sodium Meatloaf and Schublig
- Development of Improved Tanning Techniques for Ostrich
- Utilization of Leather Wastes in Handmade Paper Production
- Development and Standardization of Organic Pork Meat Products

- Efficient Utilization of Peking Duck Under Philippine Condition
- Transport and Stockyard Weight Loss of Slaughter Pigs



Improvement of Processing Technologies for Meat and Skins from Selected Strains of Native Pigs



Development and Standardization of Organic Pork Meat Products

ADOPTION OF SUSTAINABLE TECHNOLOGIES IN LIVESTOCK AND POULTRY RAISING

Installation of Biogas Digesters

In line with climate change mitigation agenda, and efforts to promote environmental protection and responsible animal raising of the DA, the BAI has been promoting animal waste management projects specifically the adoption of biogas technology under the National Animal Waste Resource Management Program (NAWRMP). This aims to improve livestock waste utilization towards a profitable, sustainable and eco-friendly livestock enterprise.

Under the NAWRMP, 21 biogas digesters were installed, 10 were repaired and 16 units were maintained for FY 2018. Moreover, 15 NAWRMP Regional Focal Persons and 6 BAI NAWRMP technical staff were provided with hands-on training on fiberglass biogas digester in collaboration with Biogas Ministry of Agriculture, China (BIOMA).



Scalable Polyethylene Drum Digester (SPEDD)



High Density Polyethylene Digester (HDPED)

Establishment of Automated Composting Facility

The project intends to provide a model of converting animal manure and other farm/crop wastes into natural or organic fertilizer. This will help to minimize if not eradicate animal diseases, control air and water pollution, improve soil conditions, and increase farmers' income.

The guidelines for the establishment of Automated Composting Facilities for LGUs /CSOs were issued last December 13, 2018 by virtue of Memorandum Order No. 40 series of 2018. This Php30 million-project soon to rise in San Jose, Batangas has already been awarded to the Batangas Egg Producers Cooperative (BEPCO) and is expected to be completed and operational by 2020.

REAPING THE BENEFITS OF "BACK-TO-BASICS"



Monitoring of the status of Back-to-Basics: Scientific & Sustainable Livestock and Poultry Production project under the National Livestock Program of Agricultural Training Institute (ATI).

Six (6) months after Raul M. Miguel from Catmon, Altavas, Aklan received one module of Itik Pinas ducks, he now sells duck salted eggs.

Hundreds of farmers from the municipalities of Benguet and Mountain Province were given Itik and Free Range Chicken as part of the government's advocacy towards the production of healthy food. From the birds distributed last year, some are laying eggs while others already hatched into chicks.



In support to the "Itik Pinas" Project of the National Livestock Program, the ATI-RTC 02 offered free incubation using 2 artificial incubators. Farmer-recipients were invited to bring their harvest eggs to the center to avail the said support. After 33 days of incubation, they are starting to hatch.



TURNING WASTE INTO GOLD: THE MANY BENEFITS OF BIOGAS TECHNOLOGY

In support to livestock farmers, the NAWRMP was created to efficiently convert animal wastes into biogas for cooking, electricity and fertilizer, among others. With intensified promotional activities and the growing support from different Regional Offices and Local Government Units, the demand for improved models of biogas digesters suited for both small and big scale animal production enterprises increased. Several success stories were collected from DA-RFO IX -Zamboanga Peninsula which is considered as one of the leading and successful implementers of the biogas technology in the country.

Zamboanga United Food Processing

A business partner of Bounty Agri-Ventures, the company is presently using the High Density Polyethylene Digester (HDPED) biogas digester in its dressing plant for heating water (boiler) for scalding of chicken. It was installed by BAI with the assistance from DA-RFO IX & LGU-Zamboanga City and is being managed by Mr. Oliver Cruz. An innovation to the existing model was done successfully by applying pressure using machine to convey biogas to the burner.



Galvez Family

Residents of Brgy. Putik, Zamboanga City use biogas produced from their piggery for cooking. Five (5) households benefitted from the biogas digester installed with the collaboration of BAI/DA-RFO IX and LGU of Zamboanga City. Sludge is used in vermi-composting wherein organic fertilizer is used in rice farming and vegetable production.

Rading Castillo Rodavia

A resident of Pasunangka, Zamboanga City, Mr. Rodavia manages a piggery with 30 heads. Through the installation of biogas digester, biogas as fuel for the generator is used for water pump. Three (3) households use biogas for cooking. As a new innovation and through the new skill acquired by Mr. Rodavia, he is now being hired as an installer of biogas digester in the locality and has already installed eight (8) units in Region IX giving him extra income.



Noel Latoza

Mr. Latoza acquired a biogas digester in 2017, through technical assistance from BAI and DA-RFO IX. He manages 10 pigs and uses biogas produced from his piggery for cooking and the effluent is used as bio fertilizer for fruit trees, vegetables and ornaments. He said that with the use of organic fertilizer produced fruits are very sweet.

Monsignor Luis Chito Araneta

Monsignor Araneta started pig raising as a hobby in 2014 with only two (2) until the venture grew and more piglets were produced. However, water and air pollution in the residential area where the project is located. When Monsignor Araneta came to know about the biogas digester promoted by BAI & DA-RFO IX, he immediately requested for one unit for his piggery. As of this date, Monsignor Araneta has maintained a 10 sow level population. The methane produced from the HDPE biogas digester is connected to the oven used to cook pandesal for indigent children in the locality. The biogas digester played a vital role in sustaining the outreach program due to its economic benefits. It also became a learning site for biogas technology promotion wherein three batches of study tour groups had already visited.



CHAPTER

10

NATIONAL ORGANIC AGRICULTURE PROGRAM



THE NATIONAL ORGANIC AGRICULTURE PROGRAM

The Organic Agriculture Act of 2010 (RA 10068) is a landmark legislation that promotes and develops organic agriculture in the country. It envisions a competitive and sustainable organic industry that will contribute to wider development goals of improved health and quality of life, social justice, poverty reduction, rural development, and environmental protection.

Since the enactment of this law, the Philippine organic agriculture already registered encouraging growth as manifested in the 2015 study conducted by the Research Institute for Organic Agriculture. The Philippines ranked 8th worldwide among the countries with the highest increase in organic land and ranked 5th among countries worldwide with most organic practitioners. In Asia, the Philippines ranked as the 4th country with the largest organic area and 1st in Southeast Asia.

Taking off from these milestones, the 2017-2023 National Organic Agriculture Program Strategic Plan was crafted and serves as a guide for the implementation of the organic agriculture programs, projects and activities by the DA and its operating units to ensure the competitiveness and sustainability of the industry.

The specific objectives of the 7-year plan are:

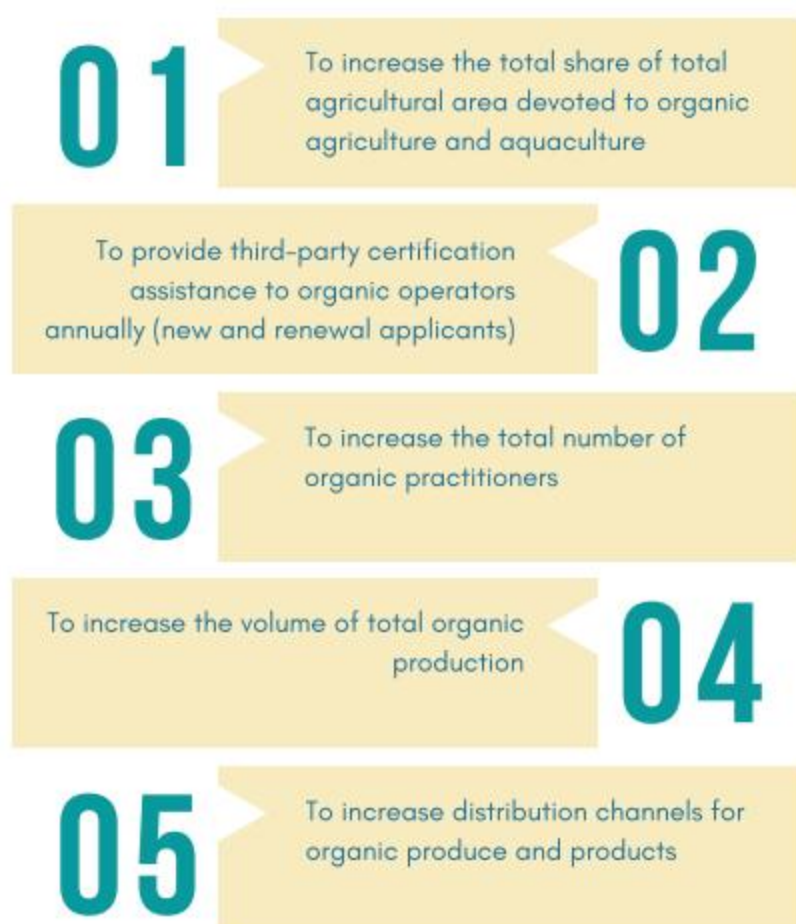


Figure 22. DA-National Organic Agriculture Program Objectives

In order to achieve these objectives, six (6) strategic themes were identified in the plan:



Figure 23. DA-National Organic Agriculture Program Strategic Themes

MAJOR ACCOMPLISHMENTS BASED ON FY 2018 THRUSTS AND PRIORITIES

Strengthen and/or increase area and number of organic certified farms

As of December 31, 2018, there are 470,047.97 hectares (ha) of organic area as reported by RFOs. This is 94% of the 501,887.09 ha Program target which states that 7% of the Philippines total agricultural land must be converted to organic.

In order to increase the organic area in the country, the National Organic Agriculture Program (NOAP) through the DA-RFOs has continuously provided certification assistance in the form of subsidy for interested entities. The RFOs also provide technical support to practitioners hoping to convert to organic farming. As of year-end, there are 63 certified organic operators, 25 of which were provided with certification subsidy.

Strengthened and more focused provision of Production Support Services

For FY 2018, 10,868 individuals and 971 group beneficiaries were provided with production services across regions. Some of the production support distributed were 68,063 kilograms of seeds, 63,148 pieces of planting materials, 2,026 head of farm animals, and 843,862 units of fertilizer and soil ameliorants. In addition, 12 production facilities were established. Among these were greenhouses, bio-control agent laboratories, rain shelters and seed storage facilities. Due to these extensive efforts, 12,113 MT of organic produce was generated adding to the reported 559,063 MT volume of organic production for FY 2011-2017.



Intensified Market Support Services

For market assistance, 4,504 individuals and 223 groups were provided with market services through 36 market-related events conducted and 23 market-related events assisted. A total of 26 market-related events were also funded. Moreover, in order to strengthen market for organic products, the NOAP National Program Coordinating Office (NPCO), in coordination with RFOs and their respective Agribusiness and Marketing Assistance Division (AMAD) conducted the monitoring and evaluation of Organic Trading Posts (OTPs). Out of 85 existing OTPs, 44 were visited and evaluated based on their compliance to documentary requirements, accessibility, skills of management team, and status of operation. As of December 31, 2018, there are 60 operational OTPs while 14 are already non-operational, and 11 OTPs for completion.

A revision of the Guidelines for the Establishment of Organic Trading Posts is also ongoing with the guidance of the National Organic Agriculture Board (NOAB).



Improved Extension Support Services

Recognizing the support of the AEWs in the achievement of the NOAP's envisioned goals and to further strengthen the linkage and coordination with the LGUs in the implementation of the Program, the General Guidelines on the Granting of Incentive Allowance for the Agricultural Extension Workers (AEWs) Implementing the Organic Agriculture Program was released in the first quarter of 2018.

In terms of training provision, 282 training and training-related activities were conducted wherein 13, 083 individuals participated. In addition, 38,306

copies of IEC materials were disseminated, 5 techno demos were established. 14 Farmer Field Schools were conducted.

Institutionalization of Organic Agriculture Information System and Strengthened M&E

In order to come up with an effective scheme for monitoring, evaluation, validation and data collection in capturing the accomplishments of the Program, the Guidelines for the Monitoring of Key-Results Areas of the NOAP through the Results-Based Monitoring and Evaluation System (RMES) was disseminated to RFOs last May 2018. The RMES will be essential for planning and programming as it will provide quarterly updates of the program's Key Results Areas (KRAs) specifically: (a) total organic area; (b) volume of organic production; (c) market for organic products; (d) number of certified organic operators; and (e) number of organic practitioners / farmer adopters. Likewise, the collected data from RMES shall serve as the basis in identifying the gaps that the program still need to address for future possible interventions.

Promotion and Advocacy Campaigns

To raise public awareness and mainstreaming of Organic Agriculture (OA) through the target stakeholders of the Program, namely farmers, fisherfolk, people's organizations, the youth and other private individuals and groups, various Regional Organic Agriculture Congresses were held throughout the country. This activity aims to share new technologies related to organic agriculture, as well as exchange knowledge from various stakeholders with different backgrounds and experiences on organic farming. Likewise, the 15th National Organic Agriculture Congress (NOAC) with the theme, "Organic Agriculture: Advancing the Local Food Culture Movement in the Philippines" was held in Cebu City last November 13-15, 2018. Around 2,000 agriculture sector stakeholders joined the three-day event which showcased organic products from various regions.



Breakout sessions highlighting selected presentations on OA researches, producers, marketers and policies were part of the program as one of the key strategies in promoting the benefits of OA. On the same event, the National Organic Agriculture Achievers Award (NOAAA) winners were also recognized. Among the winners, Mr. Joey Hade from Bicol Region was awarded as the first winner of the Young Farmer category, a newly introduced NOAAA category. Through the Young Farmer category, the Program aims to engage the Filipino youth to be involved in organic farming.

Moreover, the 4th Organic Agriculture Month was celebrated the whole of November. Simultaneous to the celebration, the Program conducted the 3rd NOAP On-the-Spot Poster Making and Essay Writing Contests wherein various elementary and high school students across the country participated.

Increased investment in Research and Development (R&D) in Organic Agriculture

For FY 2018, NOAP funded 14 continuing and eight (8) new researches through the Bureau of Agricultural Research (BAR) which serves as the lead agency in selection, approval, and monitoring of said researches. The list of these funded researches currently being implemented by various partner agencies is presented in Table 4. Lastly, three (3) research facilities were also established.

Table 4. FY 2018 NOAP-Funded Researches**NEW RESEARCHES**

- Standardization, reformulation and utilization of organic fertilizers in the Visayas region (Visayas State University)
- Establishment of Organic Agriculture R&D facility at BPSU Abucay Campus (Bataan Peninsula State University)
- Establishment of organic red center at UPLB (University of the Philippines Los Baños Foundation, Inc)
- Establishment of business model for techno based organic fertilizer production enterprise towards commercialization in Isabela (Isabela State University)
- Policy support to organic chicken and organic swine industry in selected areas, Philippines (University of the Philippines Los Baños)
- Production and utilization of bio organic fertilizers enhanced with biofertilizers (Bio n and mycovam) for organically grown crops (University of the Philippines Los Baños)
- Commercialization of QSU-Maddela Vermicompost in support to organic rice, coffee and vegetables growers in Quirino Province (Quirino State University - Maddela)
- Establishment of rapid production facility for Organic bio fertilizer (DA-RFO 1)

CONTINUING RESEARCHES

- Promotion of Package of Technologies for Integrated Organic Farming in Kalayaan, Laguna (Center for Environmental Law and Policy Advocacy, Incorporated)
- Adoption and utilization of organic vegetable farming technology for smallholder farmers in Barangay Kapatagan, Digos City Davao Del Sur (Foundation for Rural Enterprise and Ecology Development of Mindanao (FREEDOM) Inc.)
- Organic Agriculture research and development program of Capiz State University (Capiz State University)
- Protocol for pollinator diversity assessment and valuation of pollination services in an organic farming system (University of the Philippines Los Baños Foundation, Inc.)
- Validation and verification of methods for mineral constituents and heavy metal contaminants in organic fertilizers (University of the Philippines Los Baños Foundation, Inc.)
- Upscaling of Nipa palm sugar processing technology (UNPSPT) in selected coastal barangays in the municipality of Lanuza, Surigao Del Sur (FREEDOM Inc.)
- Validation and documentation of organic production system for rice and pole sitao eggplant in Oriental Mindoro, Region 4B (DA-RFO MIMAROPA)
- Isolation and utilization of antibiotic degrading microorganism (ADM) in the production of organic fertilizer (Central Luzon State University)
- Improvement and commercialization of developed herbal products (Southern Luzon State University - JGE Tagkawayan)
- Upscaling of organic Arius and other indigenous fruits through commercialization (Batanes State College)
- Enhancing the utilization of biological control agents and botanicals for organic agriculture in support to organic stakeholders in the Visayas (BPI-Los Baños National Crop Research and Development Center)
- Validation and documentation of organic production systems for lowland rice and vegetables in North Cotabato (DA-RFO 12)
- Development of organic complete ration Mix (OCRM) adoption, production and commercialization for organic dairy goat production (University of Southern Mindanao)
- Development of package of technology for sustainable organic sweet potato production in Central Luzon (Central Luzon State University)



Increased investments in farm mechanization and irrigation

To provide support in terms of farm operation, 425 farm production-related machinery and equipment were distributed across 333 farmer groups. A total of 50 post-harvest equipment and machineries were also provided. To aid farmers in their irrigation, 29 shallow tube wells and six (6) small water reservoirs were also installed. Furthermore, the BSWM is conducting ongoing monitoring and installation of uninstalled small-scale irrigation projects (SSIPs).



With the average age of a Filipino farmer already at 57 years old, the agriculture sector is faced with the challenge of ensuring generational renewal in the agriculture sector amidst rapid urbanization in some areas, aging of farmers and decreasing number of second generation agricultural workers. But Joey Hade, a young farmer and member of the indigenous tribe of Agta Tabangnon in Goa, Camarines Sur, is proving to be a promising and exemplary role model to young farmers.

Although Joey grew up in a farming family in San Pedro, Goa, Camarines Sur, he didn't originally envision himself to be a full-pledged farmer. An active ROTC officer in college, he dreamt of becoming a soldier after obtaining a degree in Bachelor of Science in Office Administration. Unfortunately, he was frustrated when he was not accommodated in the Armed Forces of the Philippines. His frustration turned out to be a blessing as he decided to go back to their 1.7- hectare farm in San Pedro and started to develop their coconut plantation.

His decision to become a farmer opened many doors for him. Joey joined the Goa Agri Producers and Processors Association (GAPPA) in 2014 and was appointed as Secretary and later on as Farm Inspector for organic certification. He also joined the Goa 4H Club in the same year. In 2015, he was chosen as one of the lucky youth participants who were sent by the DA-Agricultural Training Institute (DA-ATI) Bicol to Japan for a one-year training as a farm worker-trainee under the ASEAN Farmers Training Program which is a great addition to his numerous local trainings. Joey is also a holder of National Certificate II in Organic Agriculture Production as well as Horticulture.



Equipped with skills and new knowledge on latest Japanese farming technologies, he started to develop the 1.7 hectare El Silvestre farm in Goa in 2016. He adopted diversified farming system and devoted approximately 5,000 square meters of the farm to hot pepper production; 2,000 square meters were planted to upland rice; 1,500 square meters for lettuce and other leafy vegetables; another 2,500 square meters for root crops production; 1,000 square meters for cassava leaves production; and 8,000 square meters for coconut plantation.

All these are being converted into organic. The diversification in his farm proved to be a profitable venture as he was able to gain an aggregate net profit of Php216, 458.15 from his various enterprises. Among these, sales from fresh hot pepper gave him the biggest amount of net income.

As a farmer, he continuously finds ways to improve his technology through experimental research. Among his remarkable innovation in his farm is the elevated food production technology which was developed to protect the quality and cleanliness of salad vegetables. The technology facilitates convenient planting, fertilizing and harvesting. Likewise, it helps in preventing adverse effect of too much sunlight and rain through the use of a UV plastic cover. Another best practice in his farm is the Basket Composting wherein baskets are deposited into the soil of each plot. These baskets serve as reservoir of needed nutrients of the plants and prevent stray animals from disturbing the compost.

Moreover, Paper Sowing technology was also adopted by Joey in his farm to do away with non-biodegradable plastic seedling bags. The practice, which involves rolling scratch papers into small pots which serve as potting mediums for newly sown seeds, aids in reducing stress on plants during transplanting. Other best practices in his farm include cultivation of insect-repelling plants and companion planting; mulching; water harvesting or impounding; and production of natural insecticide known as JADAM herbal solution and other inputs leading to ultra-low cost farming.

Hoping that his farm will pass OA certification since it has already undergone retroactive conversion and the farm is now adopting the Internal Control System (ICS) and Manual of Operation of Goa Agri-Producers and Processors Association (GAPPA) which is already 3rd party certified, Joey applied for Organic Agriculture 3rd party certification from the Organic Certification Center of the Philippines (OCCP) in 2017 through GAPPA. An accredited learning site of the ATI, Joey's El Silvestre Farm now serves as a venue for practical trainings of young aspiring farmers.

At the age of 25, he now belongs to the pool of experts of the GAPPA who are always tapped by the LGU Goa, national government agencies, schools and private organizations to facilitate or lecture on organic agriculture, among others. Because of his dedication, commitment, wisdom and experience despite his young age, Joey has received numerous awards. In 2016, during the Orgulyo kan Goa Festival, Joey was recognized by the LGU of Goa as "Model Youth Farmer". Recently, he was also awarded as Outstanding Young Farmer of Organic Agriculture during the 2018 NOAAA.

Young farmers like Joey - who devout all his efforts, time and resources in producing healthy organic food for his fellow Bicolanos, while restoring the ecological balance and preserving our natural resources - set a great example for the youth to encourage them to embrace organic farming as a profitable enterprise.

CHAPTER

11

HALAL FOOD INDUSTRY DEVELOPMENT PROGRAM



LAUNCHING OF HFIDP AS A DA BANNER PROGRAM

With globalization and economic integration, RA 10817 or the Philippine Halal Export Development and Promotion Act was enacted in 2016. It aimed to strengthen the Philippine Halal Industry and institute measures to promote the growth, ensure the integrity and quality, and make Halal exports more competitive through, research and product development, quality assurance measures, and value-adding mechanisms. Thereby making the Philippines an active player in the regional and international markets and capitalize on the \$2.3 trillion demand of the Halal industry worldwide.

The DA, recognizing the significant role of exports to national economic development, and the potential contribution of Halal industries, launched the DA-Halal Food Industry Development Program (DA-HFIDP). It is one of the DA's banner programs launched on April 2, 2018 at the Shariff Kabunsuan Cultural Complex in Cotabato City.

With Halal development as a part of the regular agenda, government measures were established and initiated in pursuit of its continuous development and sustainability. Towards these ends, the DA-HFIDP aims to provide the policy, regulatory, and coordinative structures and mechanisms for the promotion and export of Philippine Halal agri-fishery products.

Also, it seeks to institute measures and provide programs to ensure compliance and integrity of producers, manufacturers and providers of Halal products, processes and services to national and/or international standards.

As an official DA banner program, the funding and implementation of projects is expected to be faster and easier. For 2018, the DA-HFIDP was given a budget of Php 44,630,000 for Halal awareness and promotion campaigns that will boost related enterprises, increase local income and generate more employment activities. With these developments, the DA taking advantage of the great economic potential and growing worldwide demand for Halal food products for Muslims and non-Muslim consumers especially with the increasing awareness of its health advantages.

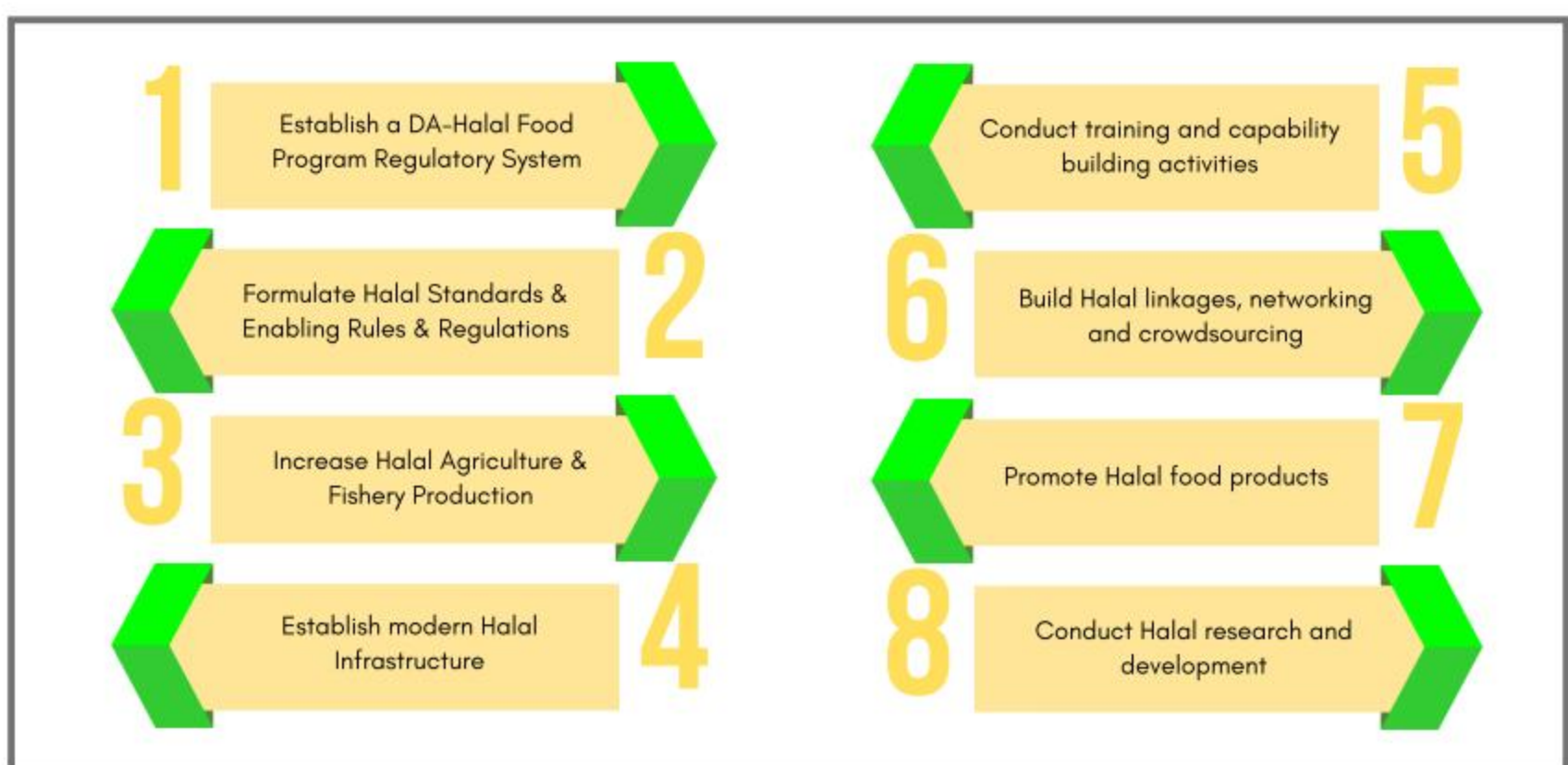


Figure 24. DA-Halal Food Industry Development Program Objectives

DA-HFIDP 2017-2027 ROADMAP

The crafting of the ten-year roadmap for the HFIDP sets the direction for the sustainability and success of the Halal industry which plays a vital role in realizing the Department's vision to create a competitive, sustainable and technology-based A&F sector.

The roadmap categorizes the identified initiatives into three phases throughout the whole implementation period:

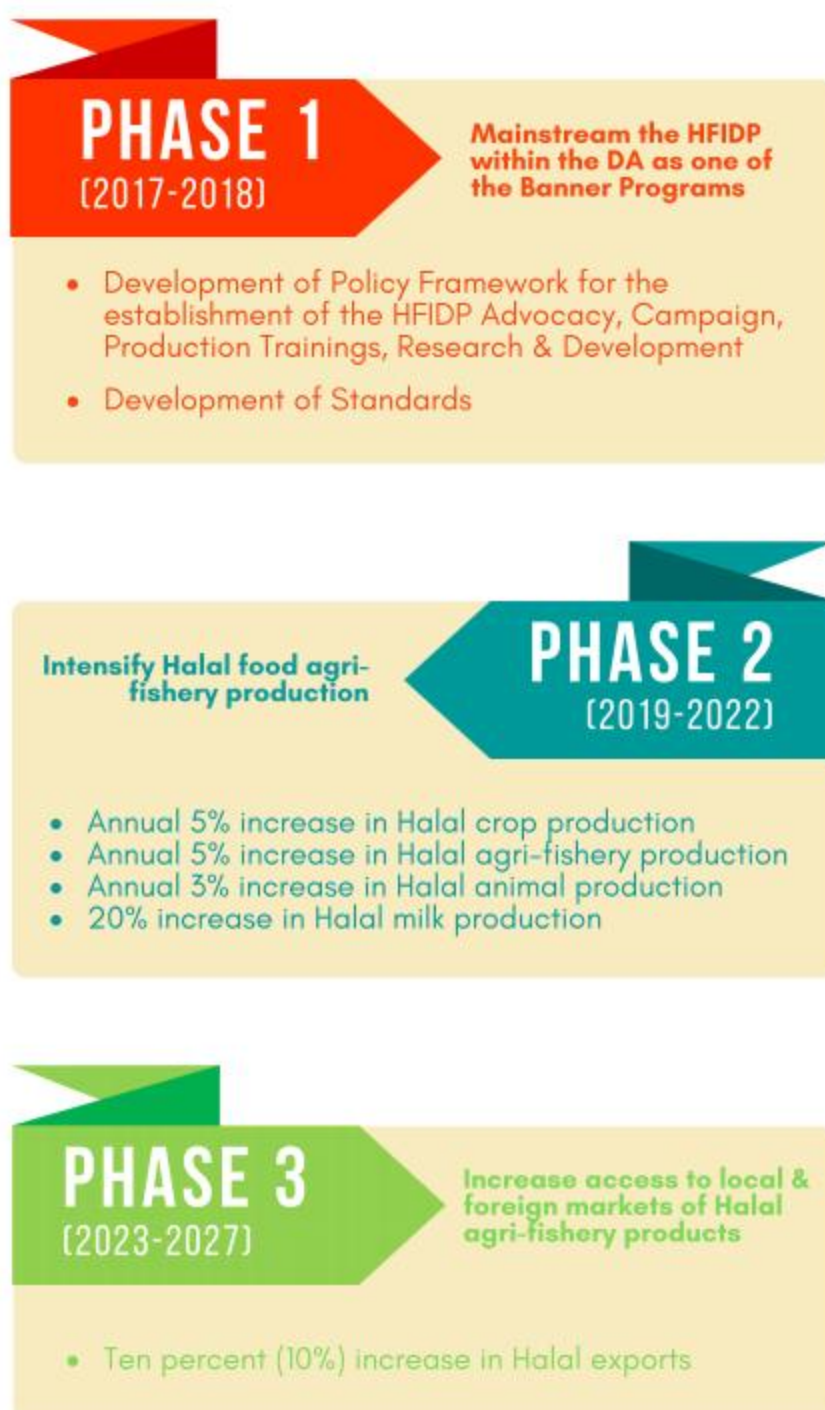


Figure 25. Implementation Phases of the 2017-2027 DA-HFIDP Roadmap

CREATING AWARENESS AND INTEREST

Instrumental to the growth of the Halal industry is the conduct of capability-building activities, as well as the conduct of various seminars to create awareness and consciousness among Filipinos.

Youth Halal Advocacy Summit

In partnership with the Mindanao State University-Iligan Institute of Technology, the DA-HFIDP on May 8, 2018 convened a diverse group of at least 200 student leaders young farmers, youth organization heads and other youth stakeholders. It aimed to widen the reach of promotions thru cascading of information down to the municipal- level by engaging the youth and correcting common Halal misconceptions thru in-depth discussions with key resource speakers.



Halal Lecture Series & Roadshow

Partnering with State Universities and Colleges (SUCs) nationwide, the DA-HFIDP conducted a lecture series that provides informative and interactive lecture sessions for the youth sector and develops a medium for a more extensive Halal industry promotion among the youth.

The DA-HFIDP conducted the said activity in the following SUCs: De La Salle Araneta University on April 4, 2018; Central Luzon State University on April 23, 2018; and Mindanao State University-Marawi on May 3, 2018.



Moreover, to orient and increase the awareness of DA employees and personnel on the concept of Halal, a Halal Roadshow and Trade Fair and Exhibit was spearheaded by the DA-HFIDP during the celebration of the Halal Awareness Week last

May 7 – 11, 2018. Regional roadshows, and orientations and awareness seminars were also organized by DA Regional Offices.



1st Philippine National Halal Conference

Also, the Philippine Halal Export Development and Promotion Board held its first-ever Philippine National Halal Conference on May 2 and 3, 2018 at the Marco Polo Hotel, Davao City.

With the theme, “Towards Making the Philippines a Respectable Player in the Global Halal Ecosystem,” the conference featured the unveiling of the comprehensive Philippine Halal Export Development and Promotion Strategic Road Map. The said roadmap is a result of a series of consultations and extensive work collaborations among all major stakeholders.



STRENGTHENING THE PHILIPPINE HALAL REGULATORY SYSTEM

Currently there are seven (7) operating Halal Certification Bodies in the country, namely:

- Islamic Dawah Council of the Philippines (IDCP)
- Halal Development Institute of the Philippines (HDIP)
- Mindanao Halal Authority (MinHA)
- Muslim Mindanao Halal Certification Board (MMHCB)
- Halal International Chamber of Commerce of Industries of the Philippines (HICCIIP)
- Prime International
- Tabun Halal Multi-Purpose Cooperative

RA 10817 mandates the DA to enhance the capabilities and global competitiveness of existing and potential exporters of Halal products, processes and services. In line with this function and to ensure that local standards are harmonized with internationally recognized standards, the DA-BAFS, in collaboration with a multi-stakeholder TWG, developed five (5) Philippine National Standards relative to Halal food, namely:

- **PNS/BAFS 139:2015** – Halal Feeds
- **PNS/BAFS 102:2016** – Halal Slaughtering Practice for Ruminants
- **PNS/BAFS 103:2016** – Halal Slaughtering Practice for Poultry
- **PNS/BAFS 101:2016** – Halal Agriculture and Fisheries Products
- **PNS/BAFS 259:2018** – Code of Halal Goat Production



Halal Goat Raising PNS Public Consultation

CHAPTER

12

SPECIAL PROJECTS

- PHILIPPINE RURAL DEVELOPMENT PROJECT (PRDP)
- SPECIAL AREA FOR AGRICULTURAL DEVELOPMENT (SAAD)
- PANAY ISLAND UPLAND SUSTAINABLE RURAL DEVELOPMENT PROJECT (PIU-SRDP)



PHILIPPINE RURAL DEVELOPMENT PROJECT

A World Bank-assisted project designed to establish the government platform for a modern, climate-smart and market-oriented agri-fishery sector, the Philippine Rural Development Project (PRDP) remains to be an effective catalyst in increasing rural incomes and enhancing farm and fishery productivity in the targeted areas by supporting smallhold farmers and fishers to sustainably increase their marketable surpluses, and by improving access to markets.

This six-year (2014–2020) project is implemented in partnership with the LGUs and the private sector in providing key infrastructure, facilities, technology, and information that will raise incomes, productivity, and competitiveness in the countryside. PRDP has four components, namely: I-PLAN, I-BUILD, I-REAP and I-SUPPORT.



By the end of the project's fourth year of implementation (December 2018), the overall physical progress of implementing the PRDP stands at 52.4%, which is 7.1% behind 59.5% target. By Component, the highest progress has been accounted in the implementation of I-PLAN at 78.9%. This has been facilitated by the timely and effective assistance provided in enabling the Provincial Local Government Units (PLGUs) to craft their respective Provincial Commodity Investment Plans (PCIPs) using results of the value chain analysis (VCA) conducted by the DA through the PRDP.



Figure 34. Overall Physical Progress 2014–2018

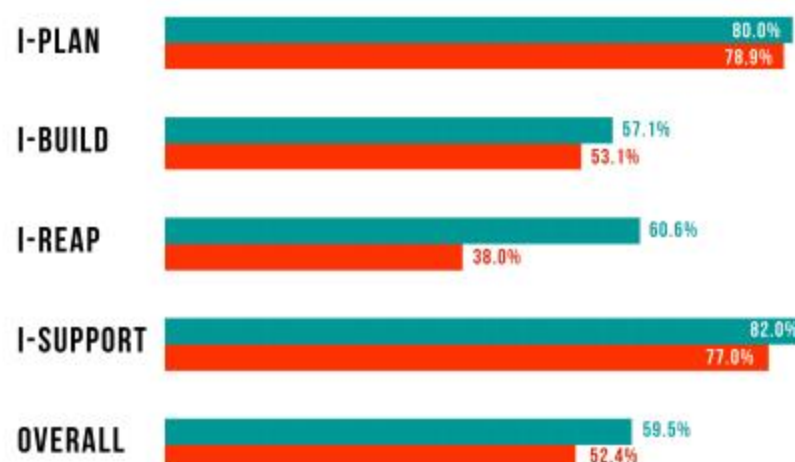


Figure 35. Physical Progress By Component (as of December 2018)

The Enterprise Development Component (I-REAP) of the Project, on the other hand, exhibited the least progress at 38% due to (i) low number of subproject proposals received by the project from the LGUs particularly in 2014 to 2015 in providing assistance to various proponent groups (PGs) operating agri-fisher enterprises; and (ii) most subprojects (434 out of 584) approved as of end of 2018 are "Micro Enterprises" costing Php3 million and below.

I-PLAN COMPONENT

As of December 2018, the Project has undertaken a total of 147 VCAs covering 52 commodities. The NPCO has so far approved 107 VCAs (38 commodities; raw and processed), which have been taken into consideration by the PLGUs and CLGUs in the formulation and updating of their respective CIPs.

Some 40 VCAs are either under preparation and for approval that would spearhead updating of CIPs to indicate investments for additional or emerging commodities as well as increasing interventions for existing commodities that are already in the PCIPs. Moreover, national VCAs for priority commodities such as seaweeds, coconut and cacao are also ongoing.

Table 10. Number and Status of VCAs

CLUSTER	TOTAL	APPROVED	ONGOING/ FOR APPROVAL
Luzon A (CAR, Region 1, 2 and 3)	32	27	5
Luzon B (Region 4A, 4B and 5)	54	35	19
Visayas (Region 6, 7 and 8)	28	19	9
Mindanao (Region 9, 10, 11, 12, 13 & ARMM)	33	26	7
TOTAL	147	107	40

as of December 2018

The overall pace of the Project in terms of engaging the PLGUs to formulate their respective PCIPs has progressed faster than planned. As early as August 2017, all 81 provinces in the country have their respective PCIPs crafted and approved by the Provincial Development Council (PDC) through the assistance provided by PRDP. Of which, 49 PCIPs were already updated as of 2018. This is a clear manifestation of the PLGUs' strong desire and commitment to effectively beef-up investments in the agri-fishery sector by employing the science-based planning approach introduced by the PRDP.

Table 11. Summary of PCIPs by Cluster

CLUSTER	NO. OF PCIP	APPROVED (NO UPDATING YET)	UPDATED
Luzon A (CAR, Region 1, 2 and 3)	22	3	14
Luzon B (Region 4A, 4B and 5)	16	1	15
Visayas (Region 6, 7 and 8)	16	-	3
Mindanao (Region 9, 10, 11, 12, 13 & ARMM)	27	4	17
TOTAL	81	8	49

as of December 2018

Apart from the provinces, the Project also provides assistance to City Governments. As of FY 2018, eight (8) City LGUs have been engaged in preparing their City Commodity Investment Plans (CCIPs), all of which have already been approved by their respective City Development Councils (CDCs). Of the approved CCIPs, five (5) were already updated.



Using the approved CIPs as a planning tool, the LGUs participating in the PRDP have put premium on investing and leveraging resources to realize interventions that are of significance to promoting their identified priority commodities.



The specific results of utilizing the PCIPs are as follows:

- Decisions for crafting interventions/projects are evidence and science-based;
- Demand for investments tends to be higher for commodities of greater importance (e.g., benefiting greater number of farmers, high impact to poverty reduction, with high market demand, etc.);
- Demand driven selection and prioritization of interventions with emphasis to addressing constraints in the value chain segments;
- Investments are not politically driven or motivated as identification of interventions pass through a science-based procedure for prioritization (e.g., based on the results of the Expanded Vulnerability and Suitability Assessment (e-VSA);
- Widens range of actors taking part in the implementation of the CIPs (e.g., identifying an agency, apart from the DA that could be partners of the LGUs in realizing or implementing various interventions);
- Defines complementarities and avoid duplications among different types of interventions that are planned to be delivered by different agencies and institutions;
- Greater integration of climate resiliency indicator, vulnerability reduction and biodiversity protection and conservation aspects in the CIPs in the identified Marine Protected Areas (MPAs) covered by PRDP.

I-BUILD COMPONENT

The Project under the I-BUILD Component has approved provision of technical and financial assistance to various local government units (LGUs) in realizing a total of 445 rural infrastructure subprojects. These cover 59 Provincial LGUs; 10 City LGUs; and 100 Municipal LGUs located in 72 provinces worth Php25.94 billion. These will benefit about 575,090 households which account for 95% of the target number of households (600,000) expected to benefit from various types of rural infrastructures to be pursued under the original loan and additional financing (AF). Almost half (40%) of the beneficiaries come from the Mindanao cluster. The Luzon A, Luzon B and Visayas clusters follow with 25%, 19% and 16% shares, respectively. In terms of worth of investments, the Mindanao cluster takes the largest chunk likewise at 42% (Php10.92 billion). The Visayas cluster, on the other hand, receives the smallest share of investment at 15% of the total cost of subprojects approved for financing.

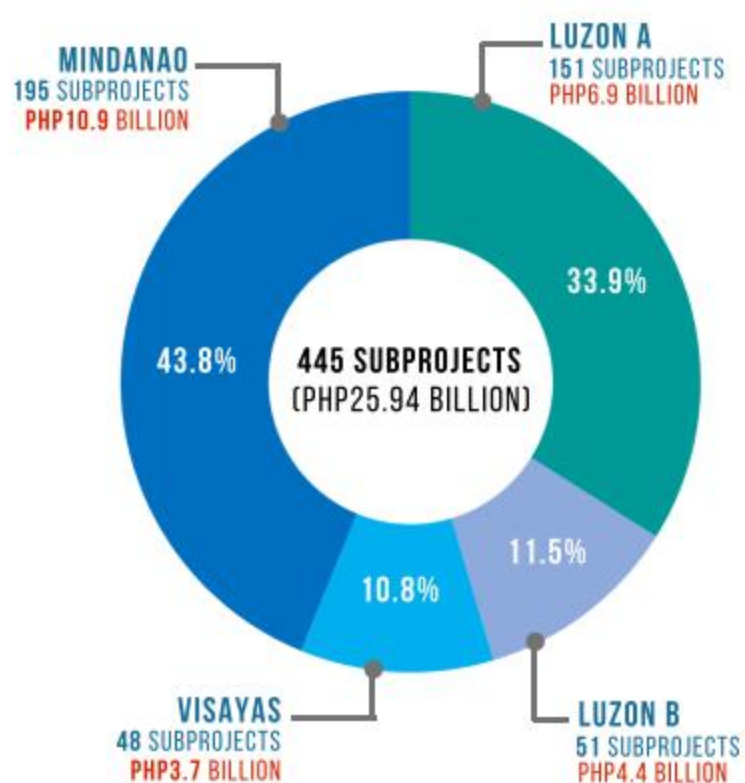


Figure 36. Breakdown of Approved Rural Infrastructure Subprojects by Region/Cluster

The interests of the proponent LGUs in seeking assistance from the PRDP have leaned largely towards creating better road network/connectivity particularly in areas where improving linkage between production and market areas. The construction and rehabilitation of roads are identified to be highly necessary taking into consideration the results of the analyses made in the value chains of various commodities.

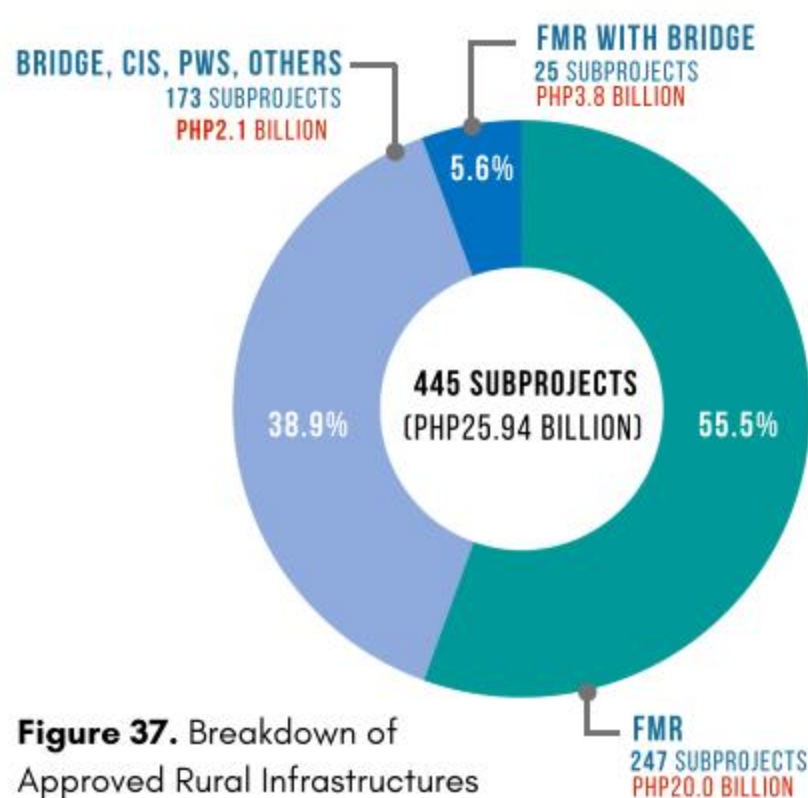


Figure 37. Breakdown of Approved Rural Infrastructures by Type (Number and Cost)

As of December 2018, FMRs and bridges worth Php23.79B, which accounts for 92% of the Php25.94B total cost of rural infrastructure subprojects approved so far with financing. The roads and bridges are expected to benefit some 417,000 household beneficiaries - 83% of the 502,000 households to benefit from the current portfolio of approved subprojects.

Table 12. Approved Rural Infrastructures by Type (Physical Coverage and Beneficiaries)

CLUSTER	UNIT	QUANTITY	HOUSEHOLD BENEFICIARIES
FMR	kilometer	1,740	369,661
FMR with bridge	kilometer	266	47,430
Bridge	linear meter	410	10,500
Communal Irrig. System	hectare	2,816	12,930
Potable Water System	household	17,418	17,418
Others		13,656.2	117,151
TOTAL HOUSEHOLD BENEFICIARIES			575,090

as of December 2018

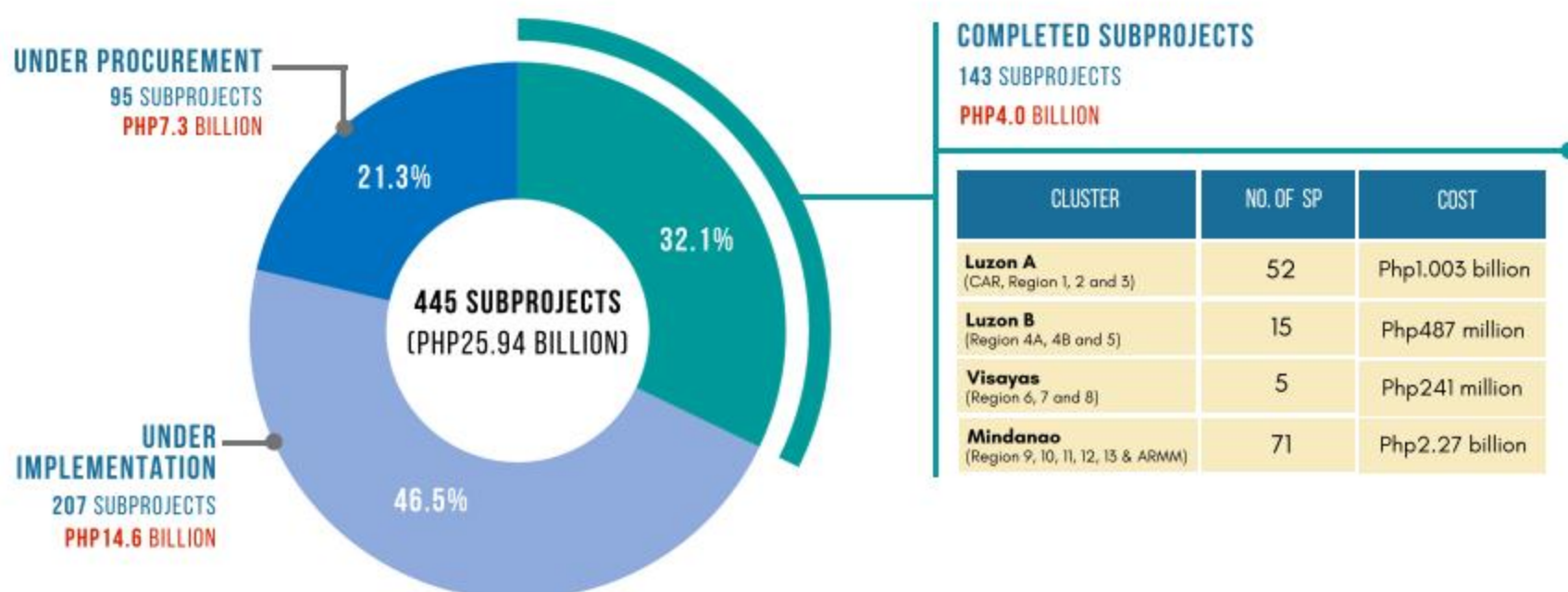


Figure 38. Breakdown of Approved Infrastructure Subprojects by Status (as of December 2018)

As of the period, the total length of the 272 FMR subprojects (including FMRs with bridge component) approved for financing under the I-BUILD Component would reach roughly 2,002 kilometers. The average length per approved FMR subproject in terms of “median” is about 5.71 kilometers.

Of the 445 approved subprojects, 143 SPs have been completed worth Php4.0B which benefited about 130,000 households. On the other hand, 196 SPs are undergoing implementation/construction worth Php14.6B, and 77 SPs are under various procurement stages amounting to Php7.3B.

The Project through the concerned units of the NPCO, PSOs and RPCOs in collaboration with the proponent LGUs conducted Rapid Assessment of Emerging Benefits (RAEB) in 22 completed FMR subprojects across the four clusters. The data cover the average 10 months of using the completed FMRs compared to the same period prior to the implementation of the subprojects. The key outcomes / benefits identified based on the data gathered from focus group discussions (FGD) with the farmer beneficiaries, key informant interviews (KII) with the officials of barangay and municipal LGUs, and household survey is exhibited in Figure 39.



Figure 39. Key Outcomes/Benefits from Completed FMRs

- **Travel time** reduced by **52%** and **transport losses** reduced from **11% to 2%**.
- **Input and hauling cost** per kg per km reduced by **3.3%** and **4.8%**, respectively.
- **Average traffic count** (per subproject) increased by **184%**.
- **Production areas** have increased by **3.5%**.
- **Average real household income** of farmers increased by **5.12 %**.
- **Other socioeconomic benefits: improved access** to health services/ facilities, schools; **job generation / livelihood opportunities**



I-REAP COMPONENT

Through the I-REAP Component, the PRDP aims to reach proponent groups to benefit from the investments that would improve their productivity and marketing and consequently raise incomes of their respective members (farm / fisher households) by at least 30% at end of the PRDP implementation in December 2020.

As of December 2018, the PRDP has approved funding of 584 enterprise subprojects worth Php1.902B. The Luzon A cluster represents the largest share of portfolio at 55%. These approved subprojects shall benefit the operations of 884 proponent groups (PGs) with about 128,000 farmer/fisher beneficiaries.

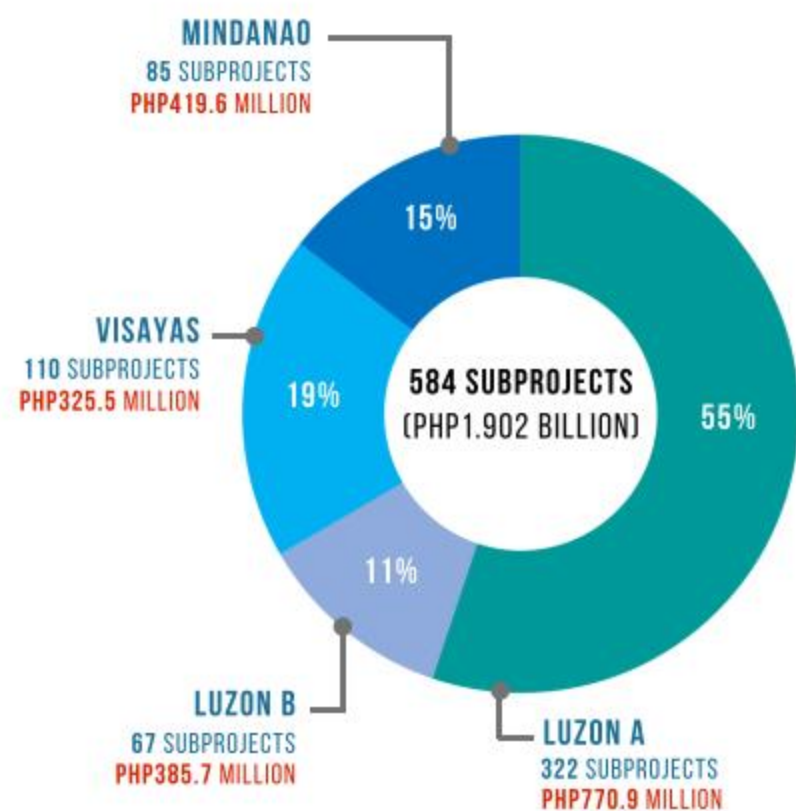


Figure 40. Portfolio of Approved Enterprise Subprojects by Cluster (as of December 2018)



Table 13. Number of Proponent Groups & Beneficiaries of Approved Subprojects by Cluster

CLUSTER	PROPONENT GROUPS	BENEFICIARIES
Luzon A (CAR, Region 1, 2 and 3)	359	62,869
Luzon B (Region 4A, 4B and 5)	88	25,584
Visayas (Region 6, 7 and 8)	270	18,742
Mindanao (Region 9, 10, 11, 12, 13 & ARMM)	167	20,689
TOTAL	884	127,884

as of December 2018

According to type, majority of the 584 approved enterprise subprojects are micro enterprises (74%) or costing Php3M and below. Small enterprises (costing above Php3M to Php15M) and medium enterprises (costing above Php15M) accounts for 21% and 5% of the total I-REAP portfolio, respectively.

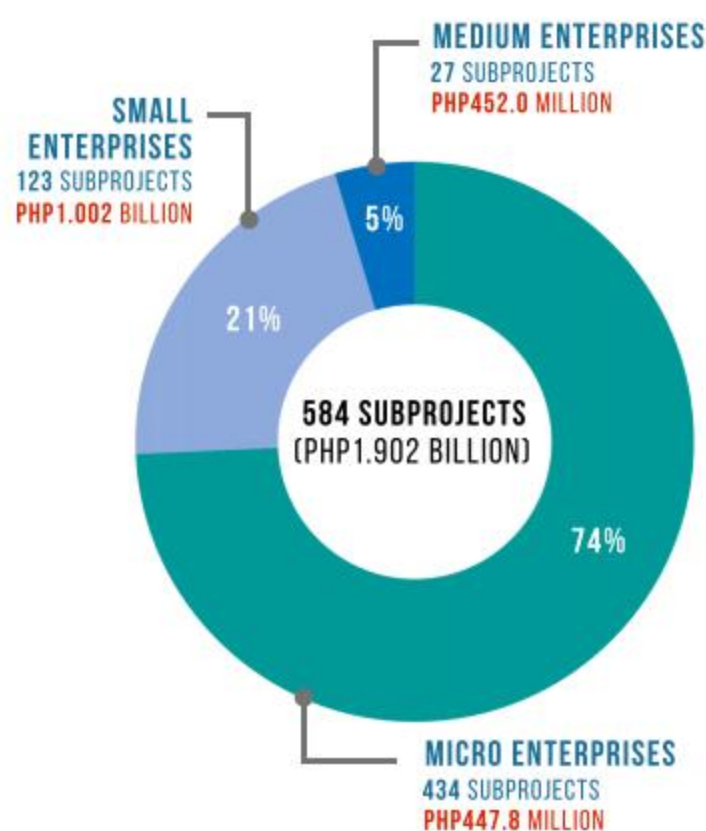
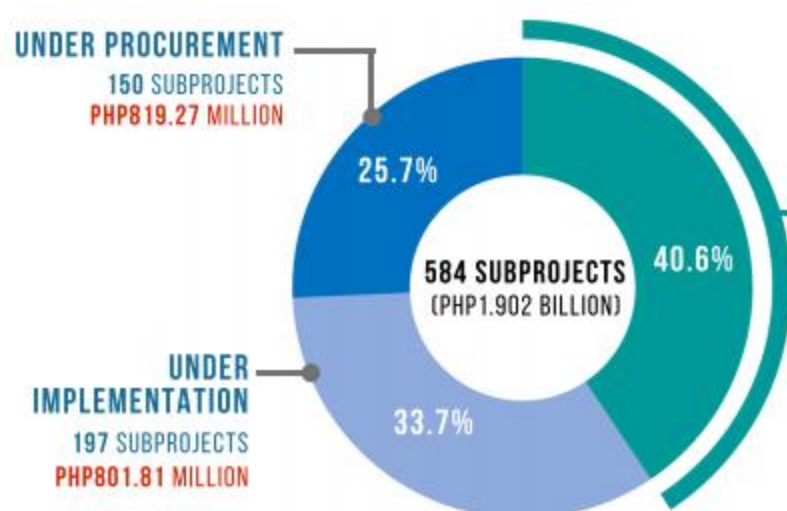


Figure 41. Portfolio of Approved Enterprise Subprojects According to Type (as of Dec 2018)

The PRDP has completed assistance in terms of provision of various equipment, goods, facilities and others worth Php 264.23M in support to the management and operation of 237 enterprise subprojects benefiting about 42,450 farmers/fishers. These completed subprojects constitute 41% of the currently approved portfolio of subprojects.

The completed subprojects so far are comprised largely of micro enterprises (96%), of which, 225 subprojects are implemented to complement with the National Government's effort for the speedy rehabilitation and recovery of the areas that were



COMPLETED SUBPROJECTS

237 SUBPROJECTS
PHP280.68 MILLION

CLUSTER	NO. OF SP	COST
Luzon A (CAR, Region 1, 2 and 3)	182	Php209.1 million
Luzon B (Region 4A, 4B and 5)	15	Php21.74 million
Visayas (Region 6, 7 and 8)	37	Php35.29 million
Mindanao (Region 9, 10, 11, 12, 13 & ARMM)	3	Php14.54 million

Figure 42. Breakdown of Approved Enterprise Subprojects by Status (as of December 2018)



“

If we can process banana chips daily, cooperative members who work here will be able to earn income every day. With the help of the PRDP, we may be able to export banana chips abroad as we produce the [required] volume

Nimfa Tolentino

President
COFCAVILLE Banana Farmers
Producers Cooperative



“

Before, we really didn't know what to do during peak seasons. We just threw the calamansi fruits; many were put to waste. We were happy when PRDP came and the trading center was established through the help of the government and the fund from World Bank. We now have a place where we can bring our produce. Now, these will not be thrown away. This [project] is a big help for small-scale calamansi farmers like us.

Maria Pilar Lumanglas
Farmer-Member and Sorter
Naujan Farmers
Association (NaFA)
Calapan City
Oriental Mindoro



The Project conducted RAEB covering some proponent groups that are already into operation using the facilities, equipment, goods as well as knowledge acquired from the PRDP. The RAEB aims to gather evidence & feedback on the initial emerging outcomes/benefits & assess how these are aligned and relevant to increase the farmers' income involved in the operation of enterprises. The following are the key outcomes/benefits emerging from completed enterprise subprojects:

Farm Machinery Services in Castillejos, Zambales

- Reduction in land preparation period
- Savings from tractor rental
- Additional income generated from tractor rental

Sapang Multi-purpose Cooperative in Moncada, Tarlac

- Reduced post-harvest losses as all sweet potatoes can now be processed even if they are oversized or reject;
- Farmers gained more income from the provision of good quality solar dryer that reduced post-harvest losses (decrease in volume of produce rejected due to high ash content); and
- More farmers are now encouraged to process raw potatoes instead of selling, especially now that they have a processing center.

Oyster and Mussel Production and Marketing Enterprise in Batan, Aklan

- Improvement in production methods through the use of raft modules--an environment-friendly design which will help reduce siltation
- Improvement in the marketing of produce:
 - (1) With the oyster and mussel producers now organized into groups through PRDP, the produce of the members are collected and sold directly to buyers at prices higher than when farmers were selling individually to various traders
 - (2) Ease in transport of produce to buyers through use of boat & truck.

I-SUPPORT COMPONENT

The I-Support component performs its overarching role in providing support for the effective implementation of the planning, infrastructure and enterprise components of the Project. It manages the provision of technical and operational assistance for the day-to-day coordination, implementation, monitoring, evaluation and audit of the Project. It encompasses various facets such as Administration, Finance, Economics, Information, Advocacy, Communication and Education (InfoACE), Geomapping and Governance, Monitoring & Evaluation, Social and Environmental Safeguards (SES), and Procurement. Under this component, relevant innovations have been developed that are integral to the operation of the other three components of the project. It also supports the management in the formulation and delivery of decisions and actions to steer the project implementation. These include but not limited to the following:

Expanded Vulnerability and Suitability Assessment (e-VSA).

As part of the reform to improve planning and resource programming in the agri-fishery sector, the Project introduced the use of the Expanded Vulnerability and Suitability Assessment (e-VSA) tool to assist the Local Government partners in the identification of appropriate interventions to targeted areas. Through this tool, prioritization is able to take into account the scientific evidence such as vulnerability and suitability of the areas, as well as the socio-economic indicators e.g., poverty incidence, production area, volume and number of farmers, among others. In line with institutionalizing the use of the said tool, the NPCO had provided training activities involving the DA-PRDP personnel and PLGUs participating in the Project. The provinces were provided with the capacity building sessions on identifying and prioritizing their areas for investments and interventions that would form part of their respective PCIPs.

Applied Geo-tagging Tools (AGT).

The AGT increases good governance by ensuring transparency and avoiding fraud in the identification, preparation, approval and delivery of various facilities to support the agriculture and fishery sector (i.e., rural infrastructure, enterprises, etc.). The AGT is required upon validation of the

proposed subproject and as it goes towards approval, procurement and during implementation stages. A Memorandum was issued requiring all DA programs / projects to adopt the AGT.

Through the AGT, the PRDP has been spared from spending about Php2.5 billion cost of proposed subprojects with duplicate proposals, parallel with existing roads, certain portions of the scope of proposal already concreted (not needing pavement) and others. The said amount instead, has been spent for other eligible / feasible subprojects.



Unmanned Aerial Vehicle (UAV).

The PRDP is now utilizing Unmanned Aerial Vehicle (UAV) to complement with the AGT as a tool in the evaluation of subproject proposals, monitoring progress and evaluation of impacts. The UAV is considered to be a “cost effective means” to collect data particularly with regard to location and scope of subproject, assets to be catered by the subproject (e.g., crops and production areas inside the road influence area, etc.) and others. The NPCO-GGU is now mentoring its counterparts at the PSOs and RPCOs on the use of the said device.

Grievance Redress Mechanism (GRM).

Managed by the Social and Environmental Safeguards (SES) unit, the GRM is an integral project management element that intends to seek feedback from beneficiaries and resolve complaints on project activities and performance. The mechanism ensures that (i) the public within the

project influence are aware of their rights to access, and shall have access to, the mechanism free of administrative and legal charges; (ii) that these rights and interests are protected from poor project performance, especially of beneficiaries and/or affected persons; and (iii) concerns arising from project performance in all phases are addressed effectively.

Mainstreaming / Integration of Institutional reforms.

Apart from the innovations enumerated above, the PRDP's overall framework in the aspects of planning, budgeting and project implementation shall be integrated to DA's existing systems and practices. The mainstreaming process is currently underway, which took off from a series of consultations and workshops with the concerned DA Central offices. These offices are viewed to become potential successors for the DA-wide launch of reforms and innovations demonstrated in PRDP. I-SUPPORT has taken the lead in leveraging institutional reforms through the mainstreaming of the various project innovations and enhancement geared towards meaningful discussions on sustainable mainstreaming mechanisms and advancing the transfer of knowledge, skills, and information. Before the Project ends, it aims to mainstream and institutionalize these tools and processes in order to become fully functional and effective in the overall DA regular operations.



SPECIAL AREA FOR AGRICULTURAL DEVELOPMENT (SAAD) PROGRAM

Officially launched as one of the DA's flagship programs in 2016, SAAD aims to reach poor households or groups that would like to engage or already engaged in agriculture and fisheries. It intends to contribute in alleviating poverty through increased food production and establishment of community enterprises in the target areas by providing appropriate technology, financing, marketing, and other support to make the farmers and fisherfolk productive and profitable. This anti-poverty agriculture-related program targets to support farmers listed in the updated Registry System of Basic Sector in Agriculture (RSBSA), DA's database, MAO's farmers' registry, 4Ps beneficiaries, Indigenous People's group, and members of accredited farmer organizations and cooperatives without similar intervention from DA in the last two years upon implementation. The DA-SAAD National Program Management Office (NPMO), together with its partner offices in the regional and provincial levels, are focused in providing agricultural interventions; while the Bureau of Fisheries and Aquatic Resources (BFAR) covers the fishery side.

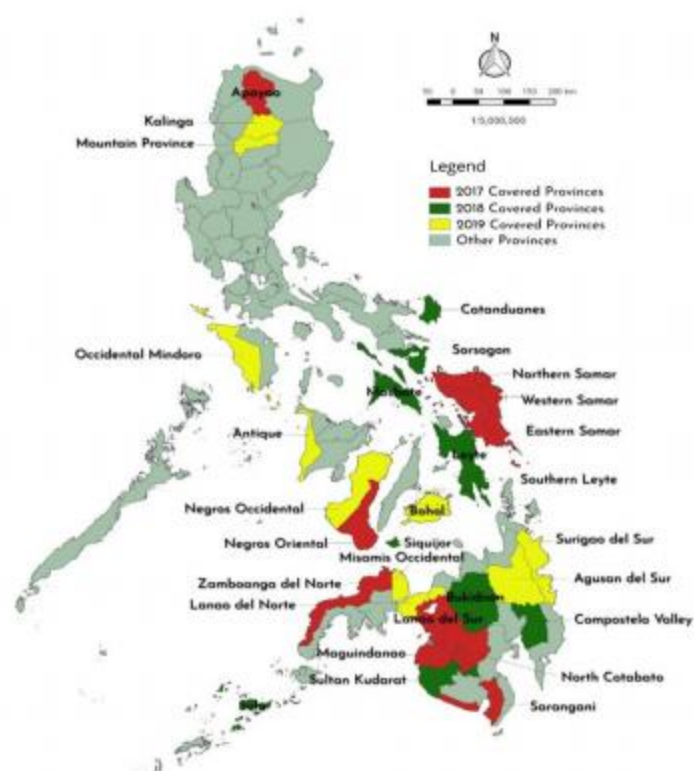






Figure 43. Provinces covered by DA-SAAD

Thirty (30) priority provinces in the country with the highest poverty incidence have been identified as project sites by the DA for the period FY 2017 to FY 2022. For FY 2018, additional provinces covered include Catanduanes, Sorsogon, Masbate, Leyte, Siquijor, Bukidnon, Lanao del Sur, Compostella

Valley, Sultan Kudarat and Sulu. In the same year, the SAAD was allotted Php721 M to support 132 livelihood projects being implemented by the Program across 20 provinces. As of December 2018, the Program has obligated Php672.33 M or 93.22% of its total budget.





Under the Program's Social Preparation and Technical Trainings component, 100 community needs assessments covering 10,264 individual beneficiaries and 642 technical trainings across rice, corn, high-value crops, and livestock & poultry-related livelihood projects were conducted in 2018 benefiting more than 32,000 farmers.

Table 14. FY 2018 Trainings Conducted by SAAD

COMMODITY	TRAININGS CONDUCTED	FARMERS TRAINED
 Rice	107	5,328
 Corn	60	3,768
 High-value crops	258	11,614
 Livestock & Poultry	217	11,927
TOTAL	642	32,637

For livelihood interventions, a total of 110 livelihood projects were fully implemented covering a total of 30,255 individual farmer beneficiaries and 179 group beneficiaries for FY 2018.

Table 15. FY 2018 Livelihood Projects by SAAD

COMMODITY	LIVELIHOOD PROJECTS	BENEFICIARIES	
		INDIVIDUALS	GROUPS
 Rice	20	6,932	97
 Corn	14	4,342	3
 High-value crops	34	10,700	33
 Livestock & Poultry	42	8,281	46
TOTAL	110	30,255	179



Women farmers in Mutia, Zamboanga del Norte receive more than 1,500 ready-to-lay chickens under SAAD's Chicken Layer Project



39 year old Florita Abaratige and her husband own a 1.5-hectare rice land in Barangay Pabanog, Paranas, Western Samar. On November 2017, Florita received one sack of certified rice seeds, complete fertilizers, and urea from the SAAD Program.

STRATEGIES & GOOD PRACTICES

As early as January 2018, DA SAAD conducted Community Logical Framework workshops to improve project implementation and monitoring and to strengthen periodic project evaluation. In complementation with the Log Frame, DA SAAD Program conducted consultative meetings to craft the Multi-Year Plan and Budget Proposal FY 2020-FY 2022 for its SAAD-covered provinces. This is to emphasize the need for the program and its stakeholders to have a vision for their proposals, setting of directions (production to entrepreneurial development), and commitment from all parties in the implementation of the program until FY 2022.

Other good practices being continued are: geotagging and databasing of beneficiaries; use of SAAD Monitoring Forms; regular field supervision, briefing, monitoring and updating; use of a Procurement Tracking System; program advocacy thru various media; and use of a SAAD website not only for project promotion but also as a database portal.

DA SAAD also explored the Community Participation Procurement scheme of the Partnership Against Hunger and Poverty (PAHP) to address challenges encountered in the procurement process especially for small interventions. The Program also started planning a Mid-Term Impact Assessment to provide a comprehensive analysis and better recommendation in the areas the program needs to address.

COMMUNITY EGG MACHINES: LAYING THE GOLDEN EGGS FOR THE FARMERS OF SALUG, ZAMBOANGA DEL NORTE



Spoiled table eggs – this is a problem that the townspeople of Salug in Zamboanga del Norte endure most of the time. Eggs supplied in the area are already spoiled when sold, considering the 2-3 days delivery time from Dipolog City and Cagayan de Oro.

When SAAD was implemented in 2017, the Local Government Unit of Salug seized the opportunity and prepared the proposal for the Layer Chicken Egg Production Project. In April 2018, the project was then implemented with two associations of marginalized farmers from Barangays Liguac and Pacuhan. The beneficiaries underwent social preparation activities resulting to a community enterprise development by and for the members. One of the organizations is the Liguac Farmers' Association (LFA) which traces its beginnings in 2013. After becoming inactive for two years, LFA was rebuilt with the hope of supporting its 33 members through poultry farming. SAAD facilitated LFA's access to 18 units of egg machines, including a two-month supply of feeds, as well as veterinary drugs and biologics. Each egg machine consists of 48 head of ready-to-lay pullets. SAAD also provided LFA members access to financial and program management, policy formulation, and production recording to enhance business management capacities.



LFA members can now be dubbed as “agripreneurs” as they manage the egg machines provided to them by the Program. A day after the distribution of the egg machines, the group already earned around P1,500.00. After two months of production, they already earned P60,000.00. In November 2018, they have already saved more than P140,000.00 in their bank account.

The project's beneficiaries from the LFA have already reached 33 households, who are earning below the poverty threshold. Most of them are also recipients of the Pantawid Pamilyang Pilipino Program (4Ps). The project did not only create a source of enough fresh eggs for the people of Salug and nearby towns but also provide a viable, profit-making business for the poor farmers and has also a great potential to create more job opportunities in the future.

PANAY ISLAND UPLAND SUSTAINABLE RURAL DEVELOPMENT PROJECT (PIU-SRDP)

The PIU-SRDP is a five-year rural development project specifically for upland communities in the identified pilot municipalities in Panay Island funded by the Korea International Cooperation Agency (KOICA). This foreign-assisted project is being implemented in three (3) phases from year 2015 to 2019.



Figure 44. Implementation Phases of PIU-SRDP

Currently, the project is implementing the Third Phase of the project particularly the “Creation of Integrated Local Agri-Product Marketing Framework with Financial Facility under Public-Private Partnership”. KOICA allocated USD2 million (approximately Php100M) for marketing structure and equipment, credit facility and capacity enhancement of operating partners. Under the Project, one Local

Food Center and Terminal in San Miguel, Iloilo and 10 more Bayanihan Tipon Centers in 10 selected upland municipalities in Panay Island have been established. The Panay Local Food Center and Terminal, constructed in San Miguel, Iloilo, was formally opened last February 7, 2019 and will serve as the regional consolidation hub for upland products from the different BTCs in Panay. Meanwhile, the Project put up BTCs in Libacao and Madalag in Aklan; Patnongon, Sebaste, and Tobias Fornier in Antique; Jamindan and Tapaz in Capiz; and Alimodian, Lambunao, and Tubungan in Iloilo. The facility will be operated and managed by a Farmers’ Cooperative or Association as Marketing Partner in collaboration with the LGU as Managing Partner. The LFT and BTCs are expected to be fully operational this 2019 once the agribusiness financial facility is fully installed with the Financial Partners to be accessed by their Partners for their marketing activities.



The Panay Local Food Center formally opened last February 7, 2019.

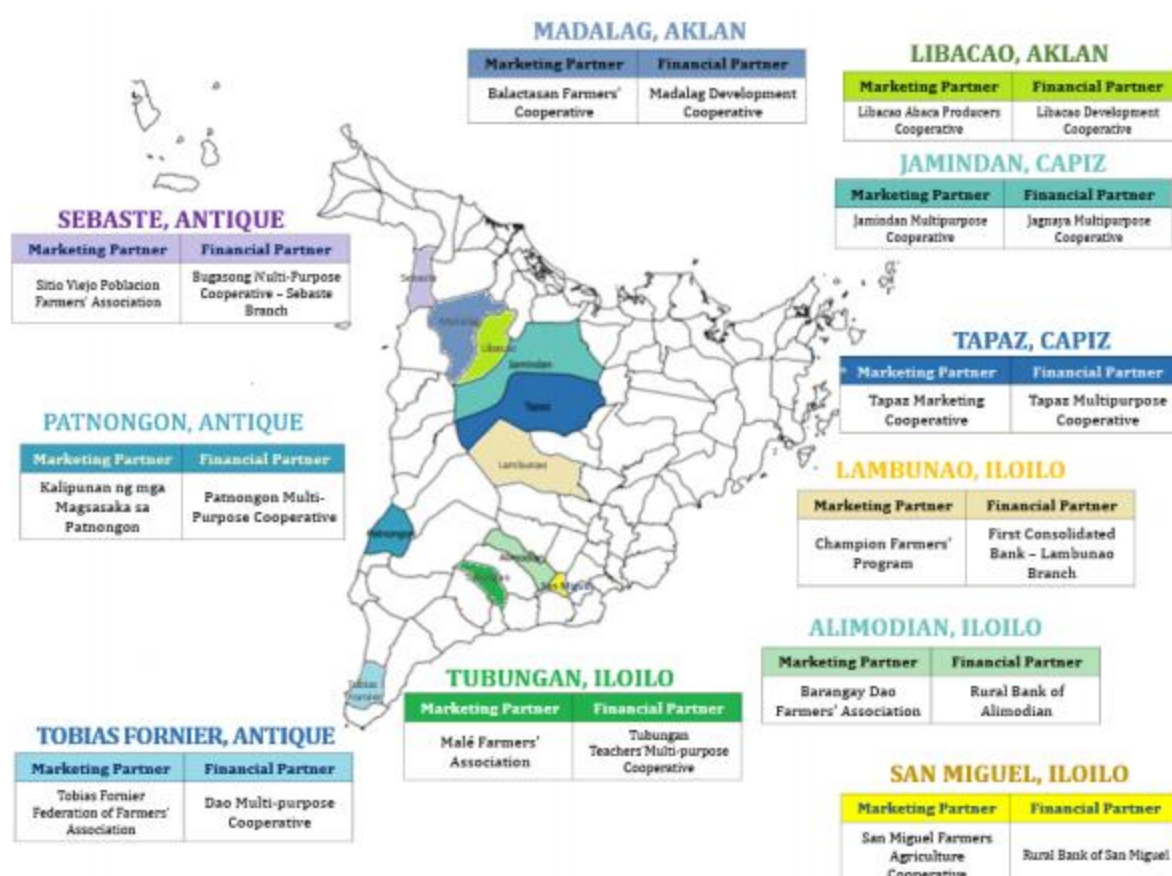


Figure 45. Pilot Municipalities under PIU-SRDP Phase 3

Under Phase 3 of the Project, a Panay Island Local Food Brand with localized logo per municipality has been adopted to promote local agricultural products of Panay Island as well as create a lasting impression and build awareness, success stories and trust to the target consumers. The Project further supports the Local Food System due to its economic, environmental and social relevance attributed to the short-distance delivery of food items and the enhancement of local economy by supporting products of local farmers.



Panay Island Local Food Brand Logo



Panay Local Food Terminal

Prior to the establishment of these market infrastructures, farmers' products used to pass through several layers of traders and middlemen before it could reach the consumers. Sadly, farmers have no control over the prices for their crops. With the interventions of PIU-SRDP, farmers' cooperatives and associations, as marketing partners—act as consolidators of the products of members and non-members. Today, two of the beneficiary LGUs —Lambunao and Tubungan—are already supplying their agricultural products to major supermarkets in Iloilo City. This is expected to lessen farmers' expenses in the transport of their farm products to Iloilo City and ultimately increasing their income.

CHAPTER

13

WOMEN IN AGRICULTURE



The DA continues to pursue the goals of gender equality and women empowerment. The Gender and Development (GAD) Focal Point System (GAD FPS) leads the process of gender mainstreaming or the inclusion of a gender perspective in the design and implementation of the Department's various programs, projects, and activities.

In line with this, the whole DA system proactively addresses issues and concerns related to rural women's lack of access to services necessary for improving their productivity and limited participation in decision making. Women farmers and fisherfolk were provided with production support services such as seeds, planting materials, animals and fishery materials. They were given market development assistance, training and education services, as well as agricultural and fishery equipment and facilities. Moreover, they were provided with credit and insurance services for social protection.

Sex-disaggregated data reveal that more women received assistance in the areas of market development support (MDS), and extension support education and training services (ESETS). The GAD FPS has been influencing program implementers to increase support to individual women and women's groups, such as the Rural Improvement Clubs (RICs).

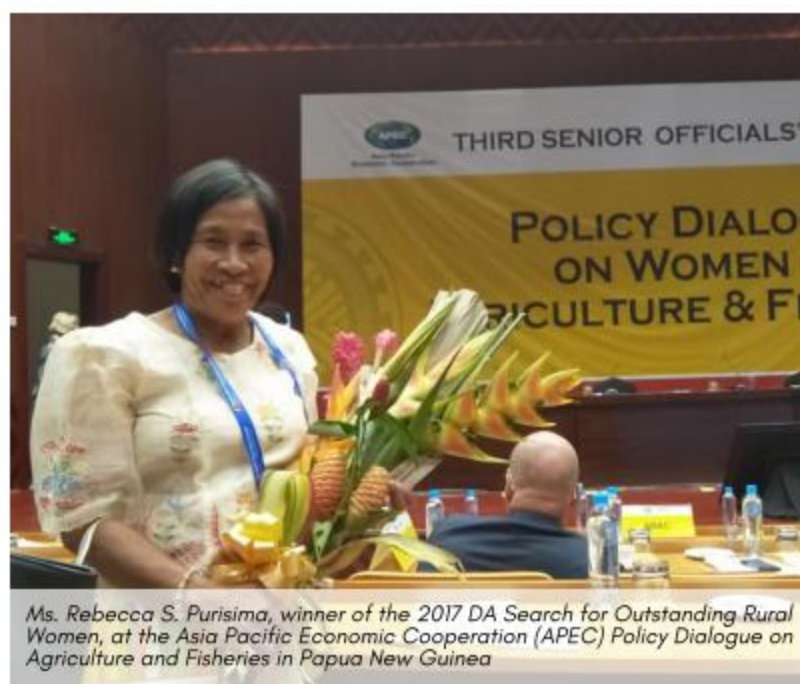
Organization-focused GAD activities undertaken by the department include the conduct of gender sensitivity trainings, Gender Based Effectivity Skills Training (G BEST) and participation in various activities spearheaded by the Philippine Commission on Women (PCW). Employees and clients were oriented on the features of Republic Act 9710 or the Magna Carta of Women (MCW), particularly on the roles of the DA, including its RFOs, Bureaus, Attached Agencies and Corporations. Capacity building activities were undertaken for concerned staff to apply the rules and regulations on the utilization of 5% of its budget for GAD in accordance with the MCW.

For client-focused GAD activities, the DA implemented the 2018 DA Search for Outstanding Rural Women and the Gender Responsive Economic Action for the Transformation of Women (GREAT Women) Project 2 in partnership with the PCW, among others.



Fourteen rural women nominated by DA Regional offices vied for the national award in this year's search. Ms. Evelyn A. Grace of Candelaria, Zambales, Region III, emerged as the winner receiving a cash prize of Php150,000 during the awarding ceremony held at the Philippine International Convention Center (PICC) in December. Other awardees were from Regions XI, V, II, CAR and VII.

Cognizant of the notable achievements and capabilities of the rural women achievers, the DA supported the international travels of several awardees to share the best practices of the Philippines in multi-country fora. Ms. Rebecca S. Purisima, the 2017 Outstanding Rural Woman who is a member of an indigenous people group and an organic farmer of Tigaon, Camarines Sur was sent to Port Moresby, Papua New Guinea to speak at the Asia Pacific Economic Cooperation (APEC) Policy Dialogue on Agriculture and Fisheries. Two other women achievers from Region XIII and Region VI participated in the South Asian Women Development International Summit held in Kathmandu, Nepal and an APEC Project Seminar in Taipei, Taiwan, respectively.



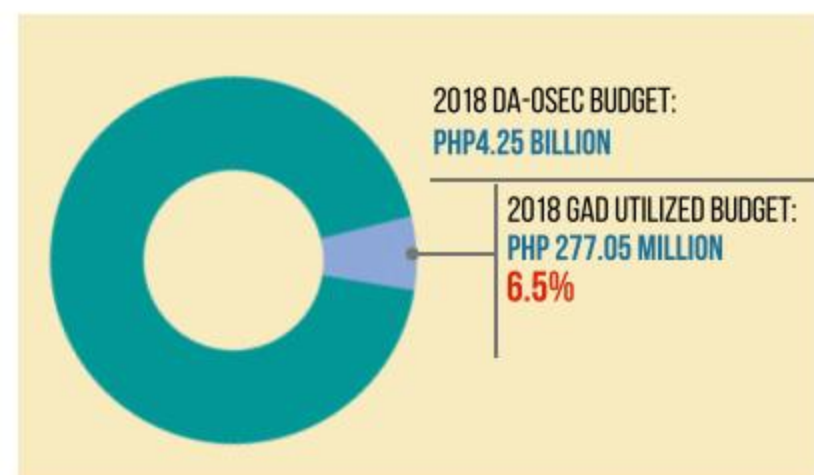
The GREAT Women Project 2, which is being implemented in three regions (II, V, and VI), aims to assist women micro entrepreneurs to make their businesses more sustainable and competitive and enhance the enabling environment for women's economic empowerment. With funding from the Global Affairs Canada, the PCW released to the three regions support ranging from Php1.8 to Php2.8M each region. About 600 members and workers of 50 women-owned managed enterprises, associations, Rural Improvement Clubs (RICs) and cooperatives were reached. They were engaged in processed fruits and nuts, coffee and cacao industry clusters, as well as wearables and homestyles.

As a result, the project successfully assisted three women-owned businesses secure a License to Operate from the Food and Drug Administration (FDA) for their businesses. Additionally, these women entrepreneurs had increased exposure and access to local and international markets, expanded business networks, and improved capacity to link with new buyers by participating in trade fairs and exhibitions that ultimately helped them increase their sales. The capacity building initiatives provided by DA enhanced the

entrepreneurial skills, and knowledge and interest to access loans from these agri enterprises.

2018 GAD BUDGET

The Department of Agriculture (OSEC) expenditure for GAD was Php277.05 M, which is 6.5% of its P 4.25 B total budget. The amounts utilized for client-focused and organization-focused activities were estimated at Php1.6 M and Php2.8 M, respectively. The total GAD expenditure also includes the Php 272.6 M worth of interventions which were evaluated as "gender-sensitive" using the Harmonized GAD Guidelines (HGDG), attributed to the gender mainstreaming efforts of the National Rice and Corn Programs.



EVELYN A. GRACE

BRGY. LUIS, CANDELARIA, ZAMBALES

WINNER, 2018 DA SEARCH FOR OUTSTANDING RURAL WOMEN

Evelyn Grace is not only outstanding in the field of agriculture, environment conservation and protection but also in community service and in promoting advocacies such as women empowerment and rural development.

At the age of five, Grace was a regular companion of her father in doing farm activities starting at 4:00 in the morning. Due to her family's financial limitations, she was not able to finish her education. However, it did not hinder her to become a productive member of the community.

Grace worked in various financial institutions such as the Farm Systems Development Corporation, Area Development Bank and the Mother Rita Multi-Purpose Cooperative. When she retired, she established the Green Thumb Agri-Products with the support of her family.

Evelyn personally oversees the management of the three-hectare farm where they produce rice, mango and vegetables. An agro-forest area was also established within the farm, where cashew, tamarind and ginger are intercropped with forest trees. Harvested fruits are processed into snacks to add value. From all of these, she earned a gross income of about Php3M with a 49.91% return of investment in 2017.

The farm adopts Good Agricultural Practices (GAP) and is compliant with the requirements of the Food and Drugs Administration. Its operations ensure quality products and services, sustainability, and environment protection through measures that apply adaptation to climate change and other emerging conditions. Being actively engaged in various community works, Grace plays a vital role in forest protection and livelihood development.

For her, women environment is providing opportunities for women to grow and develop in all aspects of life. She considers herself empowered, acknowledging her capability to share her skills and knowledge to other members of the community.

Now in her senior years, Grace continues to inspire many young women to engage in agricultural work and be an agent of change.



EVANGELINE ASISTADO-NOVELA

Purok 3, Cadalian, Baguio District, Davao City
Second Place



JOSEPHINE GANDOL ARTIAGA

Bulawan, Sr., Lupi, Camarines Sur
Third Place

CHAPTER

14

CLIMATE CHANGE MITIGATION & ADAPTATION



AMIA VILLAGES

Building resilient yet progressive agriculture and fisheries livelihoods and communities through the provision of highly responsive agriculture & fisheries support services

Building upon the gains of the Adaptation and Mitigation Initiative in Agriculture (AMIA), the DA took the initial steps towards resiliency building of agriculture-fishery communities, particularly for small-holders who are most vulnerable to climate change. Through the Bureau of Agricultural Research (BAR), the Community Participatory Action Research (CPAR) component of the AMIA program was implemented, with the Regional Field Office's AMIA Teams leading the ground work. The CPAR project is implemented in ten (10) regions, all aiming to establish an AMIA Village in one particularly vulnerable province in each region. Each CPAR project received the amount of Php5.0M R&D grant from DA-BAR for implementation.

The AMIA Villages are initial proof-of-concept sites within each region, where preliminary evidence of Climate-Resilient Agriculture (CRA) processes and outcomes at the local level are derived. It serves as a platform for learning and sharing with a wider range of communities within the region. Its participatory action-oriented research agenda is driven by community-centered mechanisms and farmer-to-farmer methods for introducing and promoting CRA within and across agri-fisheries communities. By nature, farmers are like scientists seeking alternatives to make their farming practices fit their situations in the field. However, given their limited resources, farmers are not able to do so. Thus, the support given to AMIA Villages allow farmers to try alternative CRA technologies and practices that when proven viable, can be adopted in their specific locations.

There are six (6) major components in setting-up an AMIA Village under the CPAR. After identification of the area's climate vulnerability, target the Participatory Rural Appraisal (PRA) and social mobilization are conducted in the identified project community. After which, the actual action learning for CRA innovation takes place. For two (2) successive seasons, various CRA options were tried including Alternate Wetting and Drying (AWD), climate-resilient varieties, adaptive cropping calendar, crop rotation, zero tillage in corn areas, water harvesting/impounding, Sloping Agricultural Land Technology (SALT) and various income diversification activities such as goat and native pig raising, mushroom culture, among others. Next to the CRA action learning is the integration of CRA in value chains/food systems through processing of outputs or income diversification products. While these are being implemented, the AMIA Village's access to financial services is hoped to be addressed to sustain their production activities. The monitoring and evaluation of CRA results then caps the whole process.

In 2018, there are six (6) AMIA Villages that have completed at least two (2) cropping seasons of testing and trying-out location specific adaptation measures and have potentials in helping build resiliency of the farmers' livelihood and community. These are the AMIA Villages in San Emilio (Ilocos Sur), Benito Soliven (Isabela), Victoria (Tarlac), Guinayangan (Quezon), Pamplona (Camarines Sur) and Banate (Iloilo). The other four (4) AMIA Villages in Pontevedra (Negros Occidental), Libona (Bukidnon), Davao City and Pigcawayan (North Cotabato) are yet in the first stages of implementation. In partnership with the Municipal Agriculture Office (MAO), the support of the Local Chief Executives (LCE) and the integrated support services of DA-RFOs, the AMIA Villages are testing the feasibility of CRA practices and processes, that could lead to the integration with broader strategies for building climate-resilient value chain and food systems.



AMIA Village Site in Brgy. Lucban, Benito Soliven, Isabela

PROGRESSING TOWARDS CLIMATE-RESILIENT AGRICULTURE: AMIA VILLAGE OF LUCBAN, BENITO SOLIVEN



The Small Water Impounding Project (SWIP) servicing the AMIA Village in Brgy. Lucban. Through the initiative of DA-RFO 2, resources from different agencies and local government were pooled together, bringing a portfolio of support services and infrastructure to the remote barangay such as crop insurance, farm-to-market road, mechanization, and provision of climate-resilient varieties, augmenting the initial ₱5M funding for Climate-Resilient Agriculture (CRA) research. A dragonfruit plantation was set up on the embankment of the SWIP to discourage livestock from grazing on the area, thereby preventing erosion. At the same time, it also serves as an alternative source of income for the community.



Through the AMIA Program, rice farmers in Benito Soliven adopt CRA technologies such as alternate wetting and drying (AWD), application of organic fertilizer, and planting of climate-resilient varieties such as Green Super Rice (GSR) and hybrid seeds.

One of the first AMIA Village sites is in Brgy. Lucban, Benito Soliven, Isabela. Benito Soliven was identified to have high exposure to hazards based on the National Color-Coded Agricultural Guide (NaCCAG) map and validated with its high vulnerability index result from the Climate Risk Vulnerability Analysis (CRVA) undertaken for the province of Isabela. This implies that Benito Soliven is highly exposed to hazards (basically to flooding, drought and erosion), highly sensitive to future changes in rainfall and temperature, and has low adaptive capacity.

Using the PRA data, an identified 100 hectares of contiguous rice area is available; however, it is dependent on the water supply coming from the SWIP. The SWIP used to be hardly functional due to the polluting substances dumped by a nearby ethanol plant in the adjacent town of San Mariano. While the social preparation for the AMIA Village was underway, talks were conducted among the local executives of Benito Soliven and San Mariano and related stakeholders along the area to agree on rehabilitating the SWIP and maximize its use for the benefit of adjacent agricultural areas. An agreement was reached, after which the SWIP was rehabilitated. For the first planting season, the SWIP was able to irrigate 80 hectares of land where the Alternate Wetting and Drying (AWD) technology was tested by 76 farmers-beneficiaries of the Lucban AMIA Village.



SWIP-based tilapia production in Benito Soliven made possible with support from BFAR. Residents now spend leisure time on the banks of the SWIP—AMIA Village as an open public space for relaxation and gathering of all members of the community.

CHAPTER

15

FINANCIAL PERFORMANCE





STATUS OF APPROPRIATIONS AND ALLOTMENT

TABLE 16. FY 2018 STATUS OF DA APPROPRIATIONS & ALLOTMENT

PARTICULAR	IN THOUSAND PESOS
New Appropriations (General Fund)	53,465,434
Automatic Appropriations	2,159,162
Continuing Appropriations	-
Budgetary Adjustments	(3,267,114)
Transfer(s) from:	
National Risk Reduction & Management	635,091
Miscellaneous Personnel Benefit Fund	286,412
Pension & Gratuity Fund	178,492
Contingency Fund	2,026
Unprogrammed Fund	5,589,365
Transfer(s) to:	
Department of Public Works & Highway	(9,958,500)
Total Adjusted Appropriations	52,357,482
Allotment Received	52,318,856
Unreleased Appropriations	38,626
% of Releases Over Appropriations	99.93%

In FY 2018, the Department has a Php52.3 billion (B) appropriations for the current year's budget which includes allocation for the credit program of the Agricultural Competitiveness Enhancement Fund (ACEF) amounting to Php1.280 B. Included also in the adjusted appropriation were the amount released by the Department last January 2019. Part of the unprogrammed fund is Php5.0 B intended to support the National Rice Program and Php251.7 M for the rehabilitation of damaged farm-to-market roads (FMR) in the Municipality of Rizal, Kalinga.

Also, included in the budgetary adjustments are items of appropriations in the DA budget transferred to the Department of Public Works and Highway (DPWH) for the implementation of FMR projects of the Department in accordance with the Special Provision of General Appropriations Act (GAA).

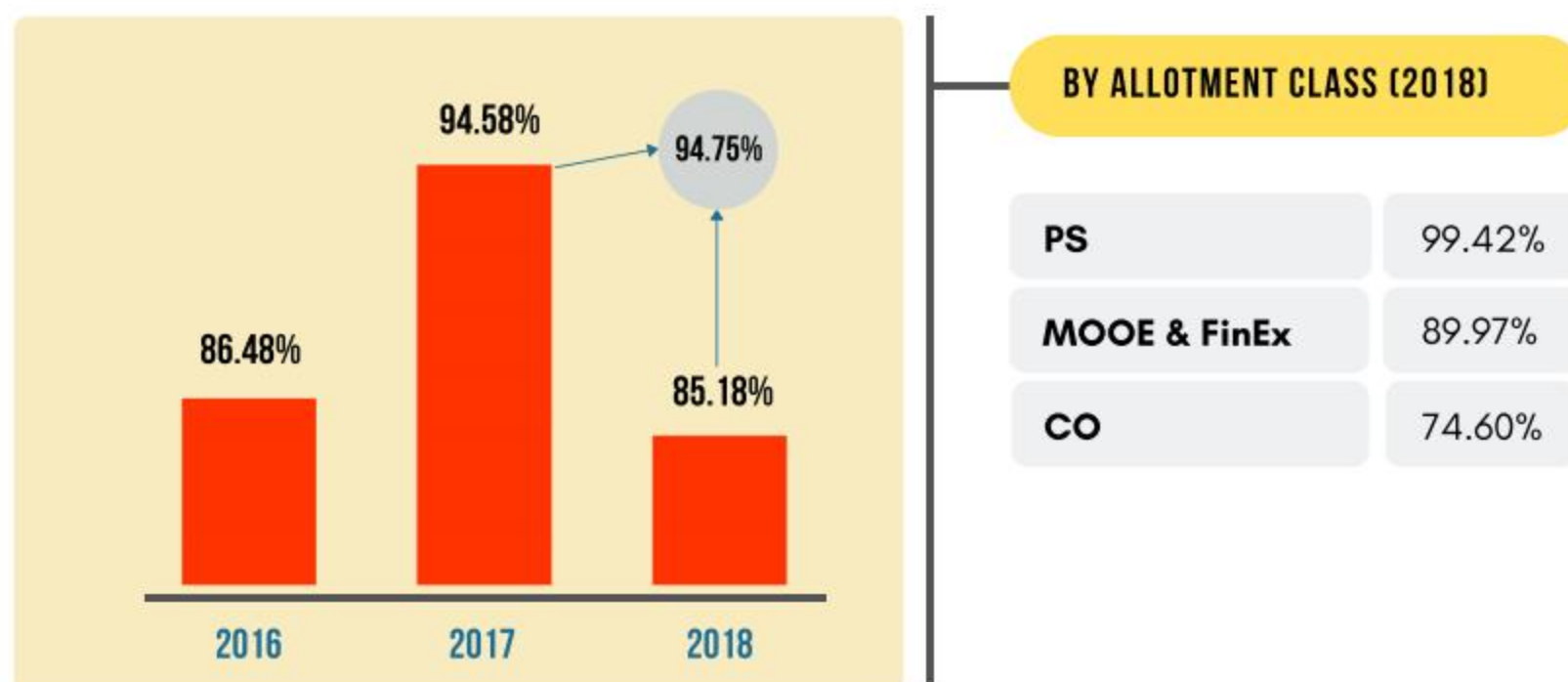


UTILIZATION RATE (OBLIGATIONS OVER ALLOTMENT)

TABLE 17. DA UTILIZATION RATE, 2016-2018

PARTICULAR	IN THOUSAND PESOS		
	FY 2016	FY 2017	FY 2018
Allotment Received	51,958,312	51,192,062	52,318,856
Current Appropriations	44,863,564	40,338,966	52,318,856
Continuing Appropriations	7,094,748	10,853,096	-
Obligations Incurred	44,935,223	48,419,889	44,565,995
Current Appropriations	38,644,178	38,208,061	44,565,995
Continuing Appropriations	6,291,045	10,211,828	-
Utilization Rate	86.48%	94.58%	85.18%

FIGURE 46. DA UTILIZATION RATE, 2016-2018



In FY 2016, the Department reached 86.48% utilization and it increased to 94.58% in FY 2017 (where there were no continuing appropriations), but it declined to 85.18% in CY 2018, due to additional allotment of Php 5.289 B that the department received last January 2019.

Net of the mentioned release, the agency utilization rate could have reached 94.75% - the highest obligation rate in the past ten (10) years. FY 2018 utilization rate includes the obligations of Fertilizer and Pesticide Authority (FPA), which was transferred to the Department by virtue of Executive Order No. 62 (Section 2) dated September 17, 2018.



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